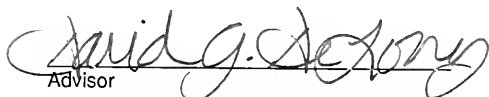The Role of Historical Elements in Postmodernism:

An Attempt to Converse Through Keystones

Mary Buchanan Brush

A Thesis
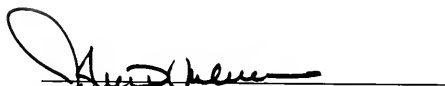
in

Historic Preservation

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Advisor
David G. De Long, Professor of Architecture

Reader
John Milner, Adjunct Associate Professor, Historic Preservation

Graduate Group Chairperson
David G. De Long, Professor of Architecture

You show us, Rome was glorious, not profuse,

And pompous buildings once were things of Use.

Yet shall (my Lord) your just, your noble rules

Fill half the land with Imitating-Fools;

Who random drawings from your sheets shall take,

And of one beauty many blunders make;

Load some vain Church with old Theatric state,

Turn Arcs of Triumph to a Garden-gate;

Reverse your Ornaments, and hang them all

On some patch'd dog-hole ek'd with ends of wall,

Then clap four slices of Pilaster on't,

That, lac'd with bits of rustic, makes a Front:

Or call the winds thro' long arcades to roar,

Proud to catch cold at a Venetian door;

Conscious they act a true Palladian part,

And if they starve, they starve by rules of art.

From "Epistle to Richard Boyle, Earl of Burlington:
Argument of the Use of Riches"

Alexander Pope, 1731

Acknowledgments

In the nine months of writing this thesis, I first went through a very long process of choosing and refining the topic. For enduring my bi-monthly topic changes and resulting frustrations, I thank Dr. David De Long for his continual support and encouragement. One I passed the six-week test of maintaining a topic, the guidance and eventual editing from Dr. De Long was again very helpful and encouraging. Guidance from John Milner was also received and appreciated.

To be fair, I must also thank friends who listened to my "archi-babble" and reflections on postmodernism. During my immersion into architectural treatises, I was "visited" in my dreams by Italian theorists who may have bestowed upon me the secrets of the universe, architecture, or their opinions of postmodernism - if only I understood Italian! Thank you for your efforts.

Many thanks must also be given to Kathleen Ryan and everyone at MASCA Journal at the University Museum of the University of Pennsylvania. The use of the computer facilities greatly improved the appearance of this thesis.

Introduction

This thesis will examine the role of historic elements in the late 20th century movement in architecture known as postmodernism, and will assess the effect that reinterpretations of historic elements have had on communication between the architectural design community and the public at large. Specifically, I will analyze the use of the keystone by Michael Graves, one of the most prominent postmodernist architects. I will explore the transition of this form through familiar architectural history and the reinterpretation of it in postmodernism. My conclusion will be that postmodernism has contributed to the American public's awareness of preserving old buildings as a critical component in maintaining the integrity of this nation's urban fabric. I will also show that decoration in postmodernism based on historic precedent can appear to be superficial and trivial.

Modernism, with leaders such as Mies van der Rohe, Walter Gropius, and Le Corbusier, expressed structural design and functional components as the pure essence of architecture. Modernism was accused by postmodernists of alienating the general public by theorizing architecture to an extent that it was not longer enjoyable or comprehendible by the majority of those who used the space. It gave the purity of form priority over the comfort of those who utilized the space. Postmodernism, as will be explained later, attempts to learn from the errors of modernism and communicate with both architects and the public at large through the use of historic elements.

The common thread connecting various definitions of postmodernism is that historical elements are considered a tool with which the architect hopes to establish a link of communication between the architectural community and the public at large. Postmodernism utilizes abstracted historical elements to present both the familiar and the

unusual, in order to encourage the viewer to ponder the development of the design. This reinterpretation of historic elements is changing the attitude of architects toward historic architecture. Once spurned by modernists, influences from other architectural expressions and the application of decoration are not only acceptable but expected in postmodernism.

In order to present the role of historic elements in postmodern architecture, the movement itself requires a definition. The first section of this thesis will be devoted to defining the movement according to three leading commentators of postmodernism: Robert Venturi, Charles Jencks, and Heinrich Klotz. Robert Venturi is integral in studying postmodernism in that he wrote one of the first open challenges to modernism. Once the movement developed, it gained considerable acceptance with the publication of first theory of postmodernism written by Charles Jencks. Heinrich Klotz wrote a history of the movement integrating its development through theoretical exploration and physical examples. My interpretation of postmodernism will follow.

The next section will present the philosophy of Michael Graves as it applies to postmodernism and the use of historical elements. One of Graves' trademark features in design is his various uses of the keystone. He has extracted it from its original position as the central voussoir, or stone, in an arch, and presented it as a metaphor for linking two halves of an object and for highlighting the passageway or portal between built form and landscape. He applies this metaphor to his buildings and develops his design around the expression of the new interpretation of the keystone.

In order to understand this new interpretation, the history of the form as a functional and decorative feature in architecture must be understood. The role of the keystone throughout architectural history will be discussed before the analysis of Graves' build-

ings.

The primary question in researching the role of historic elements in postmodernism is whether the abstracted form is chosen arbitrarily or whether the use and resulting proportions are based in logic. Is Michael Graves attempting to create a new architectural order with his reinterpretation of the keystone? Is the use contingent upon specific architectural situations? Are the proportions based on treatises or are they based purely on aesthetics? If so, is there a logic within this aesthetic proportion in his buildings that utilize the keystone as a traditional and defining element of the design?

Postmodernism has consistently utilized historic elements as a mode of dialogue with the public at large. Has it been successful in establishing a communication link between the architectural community and the public at large, and what has been the resulting opinion of the people for historic features? If a growing awareness of the surrounding historic architectural fabric of the city is the result, will it turn preservation into a pastiche of postmodernism or vice-versa? Its effect on preservation is a subject for future study.

Postmodernism Defined

In order to analyze the role of the historicizing elements in postmodernism, a comparative analysis of the definitions of 'postmodernism' as it has been stated by the leading theorists and practitioners is necessary. As postmodernism is part of our present or very recent past, there have been conflicting definitions as to what it actually is and represents for architecture. Architect Robert Venturi initiated the intellectual break from modernism with his book, Complexity and Contradiction,[1] written largely by 1962 and published in 1966.

The movement has since evolved beyond the scope of rebellion against the ideals of modernism and into an expression of symbolism and metaphor for historical influences. Internal meanings within a form are implied by the design philosophy of the building. Metaphor existed with modernism in that architecture was an expression of the machine age and technological progress. Buildings were more than structures; they became images for the future. Postmodernism uses a different metaphor, in which historic elements are abstracted and their original meaning is given a new interpretation which is more appropriate for today's society. The historical imagery is a reflection of the renewed interest in developing an interaction between the general public and the architectural community.

I will present the interpretation of the practitioner, theorist and historian in order of publication of their primary work on postmodernism (i.e, Venturi, Jencks, and Klotz). The relationship or value given to historicizing elements in postmodernism will then be discussed as to the strength of this aspect in forming the identity of the movement. My attempt to define postmodernism in a way that relates to the remainder of the thesis will follow.

Robert Venturi claims today that he is not a postmodernist. This may be true, or it may be a personal effort to not be typecast into a specific approach to architecture. It cannot be denied, however, that the publication of his work, Complexity and Contradiction, challenged the modernist movement and initiated something new. Modernist ideals were intended to create a classless architecture. According to Venturi, buildings were stripped of their ornamentation in order to bring them down to a pure structural system. Social housing was a primary concern of the movement. Problems arose when people viewed the buildings as so intellectually oriented that one could not relate to them; as a result, people were alienated from the architecture that was designed to do just the opposite.

Robert Venturi was not alone in challenging the alienation of modernism with an attempt to reach out to the public at large. Venturi was merely the first to publish ideas questioning the merit of modernism by discussing apparent failings within the movement. How Venturi relates to a postmodernism today is a question beyond the scope of this thesis. His importance here is his practice of symbolism in architecture.

Robert Venturi wrote Complexity and Contradiction as a practicing architect "who employs criticism rather than a critic who chooses architecture."[2] He wrote in an effort to justify his direction in architecture, moving away from the standards of modernism. Described by Vincent Scully as "the most important writing on the making of architecture since Le Corbusier's Vers Une Architecture, of 1923,"[3] this book offered a formal challenge to modernism. It openly presented the merits of contextual design and the application not only of decoration but of decoration influenced by historic architectural details. Mies van der Rohe stated one of the primary aims of modernism was a need to "create order out of the desperate confusion of our time."[4] This implied the disorder of various architectural revivals which had occurred during the turn of the century. To

design solely on historic precedent was a sign of regression rather than of progress and movement into the future and the technological age. According to Venturi, modernism sought to solve the specific problem of chaos from multiple influences, and focused its attention on creating a pure and sterile geometric order. The resulting purity of modernism failed to relate to the individuals intending to use the space. The users were to adapt to the building rather than the building adapting to the users.

Venturi stated that the time had come to recognize the failings in modernism and to react according to the lessons learned. His architecture is an attempt to communicate with a long-neglected public and to bring architecture back to the essence of building, rather than to control or reshape the social mores of the time. The communication that Venturi professed in his writing was to use symbolism on a building façade to integrate the familiar with the unknown. Such communication not only reaches out to the person, but also engages the viewer's curiosity to discover what is different. If the architect

> uses convention unconventionally, if he organizes familiar things in an unfamiliar way, he is changing their contexts, and he can use even cliché to gain a fresh effect. Familiar things seen in an unfamiliar context become perceptually new as well as old.[5]

The application of the familiar such as a pediment or a keystone, to the structure in an unusual manner or in unexpected proportions is supposed to conjure up the image of the standard pediment or keystone, but contrasted with its modern materials or abstracted details.

For example, the residence in Chestnut Hill, Pennsylvania, designed in 1962 for Vanna Venturi (Venturi's mother), is closer than other client-oriented work to a full expression of Venturi's design goals and his challenge to modernism. The familiar aspects that are incorporated into the façade of the house are "traditional house" elements: gable roof, parapet wall, chimney, windows, and a door. The unfamiliar aspects

are the proportions to the overall whole, the asymmetry, and the fact that the implied

order of the façade is not continued through to the interior plan.
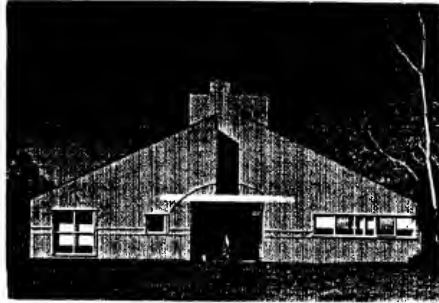
(Figure 1 Vanna Venturi's House: front elevation)

The plan is originally symmetrical with a central vertical core from which radiate
two almost symmetrical diagonal walls that separate two end symmetrical spaces in
front from a major central space in back. This almost Palladian rigidity and sym-
metry is distorted, however, to accommodate to the particular needs of the
spaces...The architectural complexities and distortions inside are reflected on the
outside. The varying locations and sizes and shapes of the windows and perfora-
tions on the outside walls, as well as the off-center location of the chimney, contra-
dict the overall symmetry of the outside form. [6]
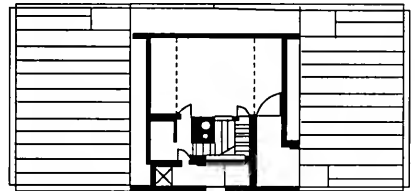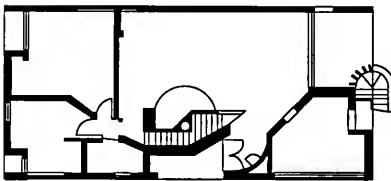
(Figure 2 Vanna Venturi House: first and second floor plans)

The concept of symbolism in the architecture of Venturi and Rauch reached a

more complete definition with the publication of Learning from Las Vegas[7] by Robert

Venturi, Denise Scott Brown and Steven Izenour.[8] It explored the concept of symbolism

in popular architecture, specifically as viewed in Las Vegas, Nevada, seen by the authors as the epitome of popular culture and tastes. In the second part of the book, the philosophy of Venturi and Rauch, Architects is presented and the role of symbolism matures.

> Modern architects who shunned symbolism of form as an expression of reinforcement of content: meaning was to be communicated, not through allusion to previously known forms, but through the inherent physiognomic characteristics of form.[9]

The direction implied by this criticism of modernism was to reiterate that human beings were lost in the drive for the pure expression of a technical and purely functional form. The designs and publications of Robert Venturi and Denise Scott Brown use architectural symbolism in order to establish communication with popular culture. The architectural elements are abstracted in order to draw attention to them as familiar yet contemporary forms in architecture. Venturi uses historicism[10] as the familiar element in architecture. He does not stray into uncommon historical elements, but experiments with the traditional, such as recognizable house features of windows, doors, chimneys and roof lines. This is in opposition to modernist abstraction in which , for example, the windows encompass the entire house.

Historical symbolism and its role in architectural history in the view of Denise Scott Brown, by the time of its publication a managing partner in Venturi, Rauch and Scott Brown, were summed up in the following quote:

> Beaux-Arts architects and urban designers who used the architectural symbolism of the Classical tradition knew that its meaning would be shared by their clients and a large public. Modern architects deny the existence of symbolism in their work and hope that "the people" will eventually understand the new architecture. In the twenties, faced with Modern Art and the International Style, some Beaux-Arts architects adapted their decorative systems to Cubism. The resultant Art Deco architecture was the Beaux-Arts reply to the Modern movement. Art Deco was the last gasp of the craft of architecture.[11]

Through their publications, Robert Venturi and Denise Scott Brown have issued their challenge to modern architecture. Due to client needs and requirements of cost efficiency, the opportunity to practice what they preach has not often occurred. The family connection, which made for a possibly more lenient client allowed the Vanna Venturi house to become the project that has come closest to epitomizing Venturi's philosophies.

Venturi simplified his opinions of architecture and created the analogy of "decorated sheds and ducks." According to Venturi, 'decorated sheds' designates the form of a building obscured by a billboard with applied decoration that relates the building to surrounding architecture or advertises its purpose. 'Ducks,' on the other hand, are buildings that suggest the function with their shape and massing. "Form follows function" and modernism create ducks because the design is dictated by a pure expression of the structure and function of the building. Postmodernism creates decorated sheds in that the façade is decorated to fit the context of the site or to simply call attention to the building.

Further categorization of architecture by Venturi is in terms of the "heroic and ordinary" and the "ugly and ordinary." 'Heroic and ordinary' describes a building that attempts the unknown, new, and abstract without maintaining any tie with culture. 'Ugly and ordinary' is one which relates popular tastes to such an extent that it does not stand out as new but rather achieves a state of kitsch. The Venturi firm agrees that most of their work falls into the latter category, but they contend that it relates to American popular culture and their interaction is a communication with society's tastes, whether in respect or condescension.[12] Because their interpretation of popular culture is often expressed through a condescending tone and through its oversimplification, the popular judgement is that Venturi's work has been unsuccessful. The public reaction to it is similar to that faced by modernism because, despite its attempts to communicate with the

public at large, it instead alienates people by not creating spaces that are enjoyable.

Venturi's quest for communication with popular culture was expressed in his use of the symbolism of familiar elements of popular taste. Postmodernism is the application to current architecture of symbolism with historic architectural elements used decoratively. Venturi reintroduced decoration as an expression of the client's individual taste or the building's function. Modernism had denied ornament and, according to Venturi, turned the building into an ornament itself. Venturi consistently deals with popular symbolism rather than historic symbolism. Whether the familiar images that he chooses to abstract are the "traditional house" icons used in the Venturi house or others, such images nevertheless form a strong divergence from the ideals of modernism.

> To find our symbolism we must go to the suburban edges of the existing city that are symbolically rather than formalistically attractive and represent the aspirations of almost all Americans, including most low-income urban dwellers and most of the silent white majority.[13]

Venturi's symbolism comes from a re-evaluation of the commercial expression of "real America." This is not the America designed by modernist architects, but the America that successfully communicates with Americans.

The focus of Venturi's philosophies is communication with the general public through the use of abstracted elements of pop culture. This is established with the language of familiar historic details abstracted through new interpretations. Venturi opened the door for discussion with those who use his buildings and challenged the alienation caused by modernists' lack of understanding. The modernists tried to create an architecture based on pure geometric forms, elements taken to their simplest geometry in order to be easily understood by all who come into contact with the space. People were not won over by this architecture and could not understand its intellectual forms; as a result they were alienated by it.

Postmodernism in architecture has attempted to continue along the lines of com-
munication with the public at large, but by different means. The intention of
postmodernism is to select an object that is assumed to be familiar to all people, and to
abstract it so that it is still recognizable as its original form, but also different enough to
present in the current age. The logic behind these forms, which extended the influence of
Venturi's writings and postmodernism, achieved a larger understanding following the
publication of a theory of postmodernism by the British architectural theorist, Charles
Jencks.

Charles Jencks has become the foremost apologist for postmodernism, since he
was the first to attempt its definition in 1975; he then revised the definition in 1989,
extending it beyond the realm of architecture to the postmodern world. The definition
published in Language of Post-Modern Architecture[14], 1977, is as follows:

> A Post-Modern building is... one which speaks on at least two levels at once: to
> other architects and a concerned minority who care about specifically architectural
> meanings, and to the public at large, or the local inhabitants, who care about other
> issues concerned with comfort, traditional building and a way of life....The build-
> ings most characteristic of Post-Modernism show a marked duality, conscious
> schizophrenia.[15]

This definition compliments that of Robert Venturi in that it speaks of a complexity
involved within the art of progressive architecture while pursuing a communication with
popular culture. Jencks modifies the search for communication with his statement that
architecture is a language of culture that is a product of the "historical memory and local
context"[16]

"Architecture ... reflects what a society holds important, what it values both
spiritually and in terms of cash."[17]   In the light of this statement, modernism, according
to Jencks, reflected society's interests in commercial status and capitalist values while the

more human everyday needs of public housing and personal interaction were lost in the
quest for a pure and technological expression of progress. According to Jencks, the loss
of communication between architects and the public at large was a result of symbolism of
technologies rather than of popular or local culture. Modernism,

> is made up of repetitive geometrics, divorced from most metaphors except that of
> the machine, and purged of vulgarity and the signs common to semiotic groups
> other than that of architects. The environment which is created by such a situation
> is one where every building is a monument to the architect's consistency, rather
> than appropriate to the job or urban setting.[18]

Jencks then elaborated on the resulting alienating qualities of modernism.

> The ideology of Modernism was often exclusivist at its core, seeking to draw into
> one sensibility and view the history of plurality of discontinuous taste cultures.
> Ultimately, Modernism was the ideology of modernization, and it lasted as long as
> that Faustian goal could be seriously pursued by the best minds and those with the
> most power.[19]

According to Jencks, a major component of postmodernism is the surface applica-
tion of historicizing elements which are not concerned with the expression of structural
form. This portion of the movement retains its close ties to modernism but varies in its
application of decoration which creates a surface diversion from purity of function. Wary
of eclecticism, the architect Philip Johnson, once a devout modernist and Mies disciple,
said,

> Mies is such a genius! But I grew old! And bored! My direction is clear; eclectic
> tradition. This is not academic revivalism. There are no Classic orders or Gothic
> finials. I try to pick up what I like throughout history. We cannot not know his-
> tory.[20]

Philip Johnson uses the tool of historical details as merely decorative, but does not
attempt to reinterpret the forms outside of the fact that he is using them. For example, his
AT &T building in New York City, is a skyscraper with Chippendale top. He does not
appear to be creating a new use for this form except that he has turned it into the cresting
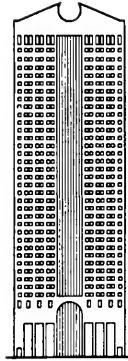
Philip Johnson, Corporate Headquarters, American Telegraph and Telephone,
New York, 1980-1983

Charles Jencks views the writings of Robert Venturi as the start of

postmodernism. Venturi's reliance on pop culture rather than historic elements has

pushed him from the forefront, but still within the definition of the movement. The

strong use of symbolism and abstraction by Venturi, Rauch and Scott Brown in their

work and publications continually affect the directions of postmodernism.

Postmodernism , according to Jencks' definition of 1977, falls into several catego-

ries within itself: straight revivalism, neo-vernacular, contextual, and metaphor.[21]

Straight revivalism, as the name suggests, bases designs and the overall appear-

ance on similarities to a historic model, the only alterations are in materials or assembly.

Jencks' complaint regarding this mode of postmodernism is that, like modernists, revival-

ists are often "insensitive to the nuance of time and context."[22] The design, according to

Jencks, fits the clients' tastes, but is not necessarily appropriate for the location and does

not reflect the general attitudes and opinions of the day, only that of the client. Jencks

criticizes the architect Allan Greenburg for being too literal in his construction of new

buildings that mimic Georgian architecture with an exactness that does not attempt to

relate to its actual time of construction. They are too exact, and therefore do not commu-nicate with the moment. There is no sense of metaphor or abstraction. The strict revival-ism seen in housing markets is not altogether appropriate, according to Jencks. While presented as a successful marketing technique and style that people like, "'radical tradi-tionalism' is not seen, by Jencks, as solution just "because it works." For strict revival-ism to be acceptable as postmodernism, according to Jencks, it must communicate the personal or social ideas of the current time through some form of eclecticism.

Neo-vernacular as Jencks describes it is a hybrid of popular architectural ele-ments, not high styles.[23] Vernacular architecture is the continuous language or dialect of local building, so as Jencks defines it, neo-vernacular would appear to be an attempt to create contextual architecture. However, he devotes a separate section to contextual postmodern architecture. The only difference between the two appears to be that the neo-vernacular attempts to blend in with the surrounding architecture while contextual archi-tecture uses similar materials and scale but does not assimilate.

Neo-vernacular is an attempt at communication with local traditions and therefore it is considered a form of postmodernism. Popular in housing development, this portion of postmodernism has proven itself to be successfully marketable. The historicizing element involves research that is done to guide new construction along historic precedent, so that the new structure will blend with and complement aspects of local architecture.

The sensitivity of this version of postmodernism to the existing historic fabric has garnered encouragement from historic preservationists. The method of contextual ele-ments modified by new construction and their interaction with the existing fabric presents the necessary balance for new construction within historic neighborhoods. The modifica-tion of common elements in the vernacular represent both the continuity and the commu-

nication established between the new and old structures.

The next category, contextual, is explained by Jencks as an amalgam of "adhocism + urbanist = contextual."[24] In other words, pieces of relevant or non-relevant history in the neighborhood and material artifacts of surrounding architecture or land-scape are applied to architecture in a new and contextual format.[25] The goal is not to blend into the fabric by portraying a similar image, but by carrying elements of familiar architecture or by being built of materials common to the area, a structure is considered to be contextual. This category could include steel frame structures clad in brick in that they stray from the pure structural expression of modernism and attempt a traditional building technique. The brick, however, is a mere skin and does not continue throughout the structure. The strength of this category is in new and improved architecture that also relates to the context, as opposed to the neo-vernacular which is primarily concerned with contextualizing elements that disguise the new within the existing fabric. This technique practices the melting of past and present together into a strange and unfamiliar new mix of contextual yet unusual architecture. It is modern architecture

> acting with the kind of sensitivity towards the historical context one would expect of a traditionalist, with the freshness and invention of a Renaissance architect."[26]

The fourth category within Charles Jencks' definition of postmodernism is meta-phor and metaphysics. This is the most unclear of his categories. It can be understood how an element of architectural detailing can be reinterpreted in terms of by becoming a metaphor for its past meaning. How, though, is architecture metaphysical? Moreover, if a design doesn't attempt to communicate with the public, according to Jencks, how is it included in postmodernism?

> It is often too idiosyncratic to capture the imagination of society at large, and it doesn't build up a foundation in habit and ritual, since industrial society tends to erode or commercialize this traditional base.[27]

Jencks then goes on to describe this form of postmodernism as a renewed interest in science and "the organic tradition in modernism that relates very closely to body images and man's continuity with the natural and animal kingdoms."[28]

Postmodern space is the final derivation from modernism to be discussed by Charles Jencks. As modernism was "isotopic, homogeneous in every direction, [and] layered in grids at right angles to the frontal and floor planes, "[29] postmodern space is "historically specific, rooted in conventions, unlimited or ambiguous in zoning and irrational or transformational in its relation of parts to whole."[30] Thus according to Jencks, the difference between modernism and postmodernism is that while modernism went to great lengths to create geometrically pure forms, postmodernism tries to create the most complicated forms possible while retaining some link to clarity of form. This is a limited distinction, since only a select few postmodern buildings employ such extreme complexities.

Fragmentation of the original form plays a large role in postmodernism. For example, Charles Moore's Piazza D'Italia in New Orleans, Louisiana, fits into the category of postmodernist space in that five portals decorated with the historical element of classical orders are fragmented from any building or gateway that they might define. They create a stage-set to present an image of Italy which relates to the neighborhood's Sicilian population, while maintaining an image of contemporary architecture. The entire space is a play on construction and classical detailing. The fountain is a topographic map of Italy, and the materials that create the columns are either jets of water, or steel and fiberglass highlighted by neon lights. This space, designed with the ethnic background of many of its residents in mind, is intended to relate to both the users and architects who seek the deeper meaning within the metaphors of columns and fountains.
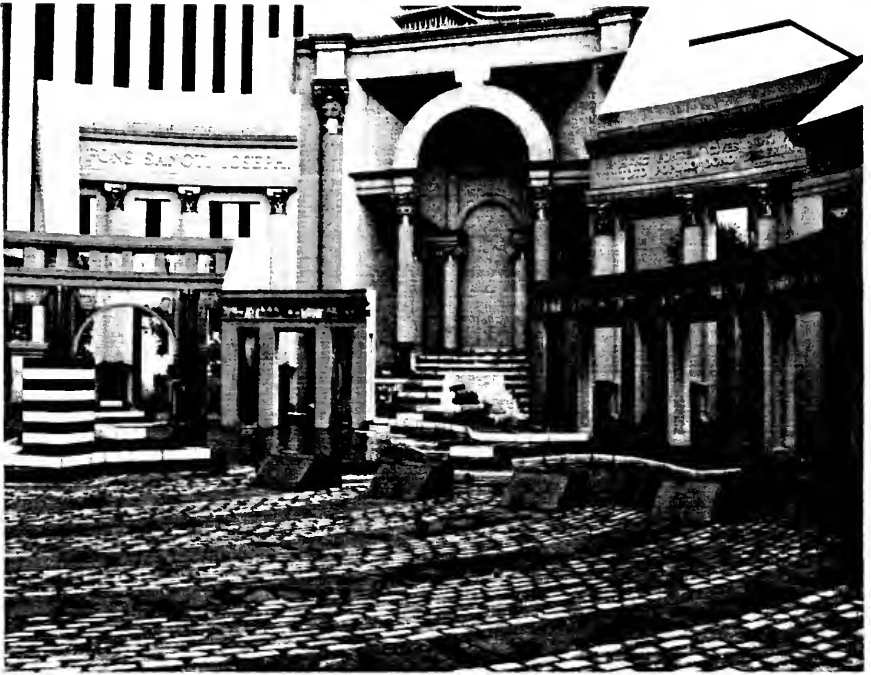
Charles Moore: Piazza D'Italia: front elevation

The columns contrast with the stark white background of surrounding buildings. They also form the stage-set of the topographic map of Italy which forms the island between the fountain and pool which represent the Adriatic and Tyrrhenian Seas. The historic elements in the columns set off each order with its own stage-set portal. The materials are plastic, fiberglass, steel, and water. Fluting on the Tuscan order is produced by streams of water, the Doric order has an architrave with small jets of water representing the metopes,called 'wetopes' by Moore,[31] and the relief image of Charles Moore's face spouting water. The Ionic and Corinthian capitals are set off by glaring rings of pink neon.

Piazza D'Italia: bird's eye view

The concept of the space is to relate to an Italian culture that permeates the lives of many of the people who will frequent the piazza.

> ...it fits into and extends the urban context, it characterizes the various functions, symbolic and practical, with various styles, and it take its cues for content and form from the local taste-culture, the Italian community. Moreover it provides this community with a center, a 'heart'. While engaging a mass-culture with recognized stereotypes, it manages to use them both straightforwardly and in an inventive, distorted way. Finally,... it foreshadows an architecture like the Baroque, when different arts were combined together to produce a rhetorical whole.[32]

Jencks' statement in this last quote that "postmodernism foreshadows an architec-ture like the Baroque," is a bit absurd. Postmodernism is more expressive than modern-

ism, but it is not eclectic or expressive enough to compare to the Baroque. Jencks, in general, has a tendency to almost romanticize the movement, and this last comparison is a good example of his literary exuberance.

Through the use of historical reference or allusion, according to Jencks, postmodernism intends to break from modernism and create new interpretations of space using color and the metaphor of reinterpreted historic forms. The result is to open channels of communication between the architectural world and the the world at large through the familiarity of form and the curiosity inspired by new versions of historic elements. The consistent element of Jencks' definition is the element of dialogue between designer and user. Historical reference brings together the familiar as well as the unfamiliar in that a recognizable shape in an abstracted from or proportion will strike a memory chord, and the unusual characteristics are intended to inspire curiosity to discover the remaining nuances of the space.

In 1989, Charles Jencks revised his definition of postmodernism and published What is Post-Modernism?[33] which presented a different perspective on the movement. Language of Post-Modern Architecture was written in the earlier phase of the movement. It was still under constant attack and Jencks' first book was an attempt to justify the existence of postmodernism. What is Post-Modernism? was written at a time when many thought the movement was near its end. It therefore did not need justification of the existence of postmodernism, but instead, a clarification of its motivations. The second book also attempts to incorporate the movement in architecture with parallel changes in the arts and in the world beyond. Parallel issues exist in a growing awareness of material histories and conscious efforts to communicate with people as a whole rather than to the select few in the architectural community.

Jencks remained more or less faithful to his original definition of postmodernism. In 1989 it read as

> double coding: the combination of Modern techniques with something else (usually traditional building) in order for architecture to communicate with the public and a concerned minority, usually other architects. One will find the constant notion of pluralism, the idea that the architect must design for different 'taste cultures'.[34]

This revised definition allows for a greater flexibility in design. The complexities in postmodernism include more than one altered historical image or time period, as well as multiple strains of metaphor that dance within the building and surrounding spaces. The essence of postmodernism, according to Jencks, is in the plurality or acceptance of multiple phases of architecture that once again cater to the client's, rather than the architect's, philosophies of the use of the structure. This concept, termed "radical eclecticism" by Charles Jencks, is an eclecticism with a "profound sense of ambiguity and abstraction rather than the eclecticism of the Nineteenth Century."[35] He stressed in this new interpretation of postmodernism that it is not a break from modernism but the evolution of its form. The role of historicizing elements is integral to its expression as different from of modernism, but the abstraction of these elements through technological means is where modernism still presents itself. Postmodernism, according to Jencks, is not the art of repetition and recreation but of abstraction of the historic in order to establish communication.

Once the theory of postmodernism and the variations within it were analyzed (however imperfectly), by Charles Jencks, Heinrich Klotz took it upon himself to write the history of the movement on an international level. His book, The History of Postmodern Architecture,[36] provides yet another look into the role of historicism in the postmodernism movement.

It seems that society, caught as it is in ecological crises, withdraws its trust in

progress by drawing back in discouragement from the threshold of new, seeking instead to recapture the old and to derive security from the past.[37]

The transition to a reactionary present from a progressive past, caused Klotz to query whether or not postmodernism was a regression. Architecture is not an exclusionary art, since its designs affect the overall population, and the return to historic revivals could represent the conservative nature of the public taste. Or, as Klotz continues, the symbolism in postmodernism is a challenge to past meanings of architectural forms and the reinterpretation of such forms is the progressive attempt of the movement to intertwine modernism and the past to form a new, more understanding method of design.

> ..."modern" architecture is seen as equivalent to technically constructivist forms and postmodern architecture as equivalent to historicizing forms. In the end, what is decisive is the intentions and the successes of the different vocabularies. Historicizing forms can be applied superficially and decoratively (that is, in a nostalgic manner), just as they can be revitalized through a spirited new reinterpretation.[38]

Klotz wrote the history of postmodernism not to challenge the work of Jencks, but to create a larger perspective. His work is not as much a product of a new vision, but rather an increased clarity of a multi-faceted movement within creative design.

> The final goal [of postmodernism] is to liberate architecture from the muteness of 'pure forms' and from the clamor of ostentatious constructions in order that a building might again become an occasion for a creative effort, attuned not only to facts and utilization programs but also to poetic ideas and to the handling of subject matter on an epic scale. Then the results will no longer be repositories of function and miracles of construction, but renderings of symbolic contents and pictoral themes - aesthetic fictions which do not remain abstract "pure forms" but which emerge into view as concrete objectivizations to be multi-sensorially appercieved.[39]

With this last quote, the ties to Robert Venturi's original challenge to modernism are apparent. Venturi called for the application of historicizing elements in order to relate the building to popular culture. Klotz repeats and embellishes this concept with poetic

flourishes, but in essence he is saying the same thing.

Klotz discusses the evolution of architecture from modernism into postmodernism as a logical reaction to and direct result of the sterility of modernism. Before the definition of postmodernism is even attempted by Klotz, he discusses the role of the historical element as a constant feature in non-modernist structures during the same period. Houses for example, retained their traditional features while commercial and institutional structures adopted modernist construction. Historicism, in which details are applied as a memory of what existed before or as an accurate recreation of the historical model, continued throughout the modernist movement and still exists. In this case, Klotz disagrees with Jencks, who included reproduction and historic accuracy as aspects of architecture belonging to postmodernism. Klotz saw historicism as a constant entity throughout modernism, and therefore, since it is not new, it is not part of the postmodernism movement. Its increased popularity is just coincidental with the acceptance of historic forms. The lack of creativity and reinterpretation discounts historicism as a new form of architecture.

Allan Greenburg is an architect who manages to cross the line between historicism and postmodernism. An example of his work is the design for a BEST supermarket with a temple façade.
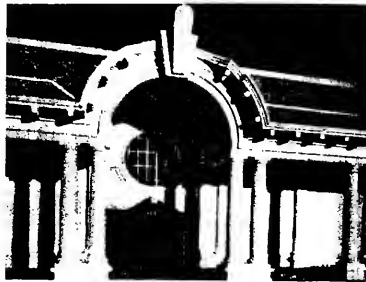
Allan Greenburg, BEST supermarket, 1979

In the supermarket, Greenburg applies the necessary contradiction of the historic and progressive found in postmodern architecture. The confrontation of modern architecture and applied historicizing elements strikes the contradictory balance of postmodernism. Classical colonnades obviously do not 'belong' at a supermarket. However, their existence recalls the ancient agora, a relationship fulfilling Klotz's requirements for postmodernism. The supermarket is the hub of current values, the place to obtain life's basic necessities. The agora stands as a reflection of another time period.

> A confrontation is truly achieved only when the historical building forms included are not weakened in their oppositional stance by an eclectic effort to appropriate them. First of all, in contrast to eclecticism, the historicist retrieval of history has a purifying effect, since through its increasingly authentic reproduction history is reclaimed from its eclectic trivialization. After being declared obsolete, history now stands eloquently and directly in opposition to the muteness of the ravaged environment.[40]

Heinrich Klotz's defining characteristics of architectural postmodernism indicate that the design takes into account the "history of architecture and refers to the given factors of the whole cultural setting," producing an architecture "of narrative contents."[41] In contrast to Charles Jencks' notion that postmodernism is a form of communication between architects and the general public, Heinrich Klotz sees it as a "fictionalization" of architecture. "It is the extension beyond functionality and serves to represent an 'imaginary world.'"[42]

Klotz summarized Charles Jencks' theory of postmodernism as describing a form of architectural communication with stylistic pluralism as the essential feature of the movement. Without denying this, Klotz added that the architect need not be as dependent upon the client's taste as Jencks suggested. The architect's strengths of expression and identity still exist, but an overall plurality of style within the movement is evident. The term "pluralism of styles" is inadequate, in Klotz's opinion, because "styles" are simply

"repositories of forms, the raw potential of architectonic expression."[43] Klotz's defini-

tion takes communication one step further:

> Postmodernism is the insistence of the fictional character of architecture - which is diametrically opposed to the abstractness of modern architecture. ... Vocabularies can change, and they can adequately serve widely divergent forms of representation and a wide variety of contents, as long as they are used as fictional narrative terms and thus are contributing significances and meanings. [44]

Klotz agrees that Venturi initiated the break from modernism with the publication

of <u>Complexity and Contradiction</u>. It reduced "less is more" to "less is a bore."[45] His-

toricism, according to Klotz's interpretation of Venturi's work, was not a strong asset to

the definition of a new movement, but the inclusion of historic influences was expressed

as essential. Complexity of form exceeded functional expression.

According to Klotz, symbolism as an architectural tool for representation and

interaction with the public created a greater challenge, according to Klotz, to modernism

than did complexity of form. Venturi's attack on modernism's absence of ornamentation

as one of the alienating features of the movement provided the opportunity for architec-

tural decoration and symbolism to be reinstated as acceptable design features.

Klotz demonstrated the development of historical elements as a fictional tool with

the Piazza D'Italia by Charles Moore described earlier. Created "solely for the purposes

of fiction,"[46] the piazza stirs the memories of Italy, real or imagined, of the immediate

residents of the area. According to Klotz,

> it should lightheartedly entertain all who enter the space, and the play of materials should engage the architectural elite and public alike. The balance between the Old and New Worlds, the play of wit and seriousness, the formality of the orders and the comic expression of their construction, stimulates the eye and encourages interaction with the space. This is the fictionalization of architecture at its finest.[47]

He continues on the subject of historicism in an effort to explain how the application of

historical elements is in fact an effort to add wit and a sense of freedom to architecture,

perhaps as a break from the confines of modernist regulations..

> Forms culled from historical styles are used for the purpose of a relief from all
> historical claims to grandeur implanted into these forms down to our time. The
> fiction of bogus colonnades consists in the emancipatory idea of using the ornamen-
> tal garb of power to liberate architecture from the pressure of hierarchical concerns
> in order to bring into action the play of wit and to rupture set expectations.[48]

According to Klotz, the work and writings of Robert Venturi returned architecture to an

art form, rather than to a structural formula. Moore perfected the narrative of architecture

into a true fictionalization of space and structure.

> The main features of American postmodernism are the formal and thematic refer-
> ences to the everyday world, the realism which takes into account existing ele-
> ments, and the increasing relativization of representational forms ...[which] show
> the wit or lighthearted polyvalence with which Americans endow the given ele-
> ments of historical architecture. [49]

Heinrich Klotz defined postmodernism as the rebirth of art in architecture through

the fictionalization of its elements. It is a medium of narrative, not just communication

as in Jencks' definition. As a fictional narrative, architecture goes beyond just communi-

cation and tells a story of why it has been designed and where the ideas originated. Klotz

tends to glorify the abstraction of historical elements to such a degree that postmodernism

sounds as if it could only exist in a Disneyland-type of environment. Granted, he does

stress that the historicizing elements create the "from where" aspects and encourage the

viewer to interact with the building and discover "why," but the fictionalizing elements of

postmodernism are not intended to be as casual as his comments portray.

Heinrich Klotz expanded the definition of postmodernism to architecture in which

historicizing elements are only part of the vocabulary. He incorporated a wider range of

architecture to include brutalism, de-constructivism, as well as neo-modernism. It is

unclear why they were included as this is not explained, nor are the movements defined. This all-inclusiveness tends to make postmodernism into the blanket term for all architecture being built up through the time of writing this thesis May, 1991. To include brutalism, de-constructivism, and neo-modernism under the grand term of postmodernism is incorrect. From what I understand of the movements, they are tangent to the progression of modernism, as is postmodernism, and all four are separate from each other in distinct ways. Examples of their architects are given by Klotz, but in each case, the buildings are discussed without providing the connection to or distinction from postmodernism. None of the movements appear to have communication or the 'fictionalization of architecture" as one of their design philosophies.

The evolution of postmodernism from its birth with Venturi, the first public challenge to modernism; to the writings of Jencks, the first to theorize about the new movement, and finally to Heinrich Klotz who was one of the first to write its history, (however vague), has presented various interpretations of postmodernism. The multiple facets of these philosophies and the acceptance of plurality within the physical and intellectual expression of the built environment is apparent. The role of historicizing elements and their prominence within the identity of postmodernism has created the division both within the field as a break from modernism and also between the various spokespeople discussed in this thesis.

Robert Venturi's postmodernism was an architecture of advertising, decoration and discussion with pop culture as the vehicle for expression. Charles Jencks' postmodernism was architecture as a duality of representation and symbolism, open communication with historical forms as the common denominator - familiar to all, different enough through abstraction of form to intrigue the few. Heinrich Klotz's postmodernism was the rebirth of architecture through an abstraction of form that ren-

dered the reinterpretation of an image a caricature of its original form. Termed by Klotz as the fictionalization of the architecture, he defined postmodernism, as Jencks did, as a communication, but he expanded it beyond historical imagery. Historicism was one form of dialogue, but it was not considered mandatory in the expression of postmodernism. Klotz presented postmodernism as a reinterpretation of modernist ideals which could include decoration through the use of historic architectural forms. The result was an eclectic mix of influences and expressions which was not a regression from the advances of modernist theory, but an acceptance of influences that came before it.

The definition that I have formulated and will continue to apply for the remainder of the thesis is based on the theories of Jencks and Klotz and actually falls somewhere in between the two. Postmodernism according to Klotz, is a movement of rebirth, a break from modernism. I see it not as a break, but as a continuation along a natural progression. Modernism created the skeletal framework of pure form. It was learned and mastered by architects and engineers in all its geometry and structural completeness. It eventually had to go beyond the original philosophies established by Mies van der Rohe and Le Corbusier and in its own progressive way create a new expression. This was done by maintaining modernist values of technology, but since the blatant expression of function and pure structure became the alienating factor of modernism, those aspects had to be modified. Postmodernism is the evolution of modernist philosophies in order to attempt communication with the public at large as well as with the architectural elite. Historicism is an integral tool through which the visual link is established. The creative reinterpretation of historic forms is supposed to strike a memory of the original form which would then encourage the viewer's curiosity to consider the resulting changes in the image. Historicism is also intended to intrigue those who would readily recognize the form to discover the hidden intricacies of the space. The result is that postmodernism

follows the intellectual design process of modernism and the resulting alienation of the general populace is still occurring.

Architecture is fiction, according to what Klotz professed in his theory of postmodernism. I do not see it necessarily as fiction *per se*, but as an expression of the renewed awareness of the built environment. Modernism, in theory more than in practice, simplified architecture to the purest of form and expressed solely the function of the structure. Function and structure were to be immediately visible and readily understood. Complexities existed only within the engineering feats performed in construction. Postmodernism employs the use of ornamentation to decorate the world around it and to express more accurately its contextual environment. Life and cities are not pure geometries. Modernism was an attempt to simplify and organize people's perceptions of life. Postmodernism is a re-awakening to the complex realities of life and an attempt to make that life more colorful and enjoyable for all involved. The abstraction of historical elements is meant to create a familiar image to capture the attention of the people, and to encourage their curiosity, their intellectual exploration to discover what is new in the shape, or why it has been transformed. The use of light, color, and abstraction encourages interactive play between architecture and users of the space. Postmodernism is an awakening to the reality that buildings are not built just to satisfy the architect or client's needs, but also to entertain the passersby. It is an awakening to the responsibility of architecture as a public art form. It is the evolution of a movement, an architecture that is attempting to communicate its responsibilities to society.

Postmodernism is not just a superficial application of historical elements as signage for the use of the structure. The use of historical reference is the reinterpretation of an image from architectural memory. The reference is analyzed for its original meaning, its development through history, and then altered to relate to a new use in today's

society. Postmodernism is the maturation of modernism into an awareness of the local community rather than architecture on a global scale. The comfort and interaction of the users were forgotten in modernism's concentration on technological expression. Postmodernism is not a regression from or rejection of technology, but rather accepts it. As with the development of the electric light bulb, after its novelty wore off, people covered the bare bulbs with decorative features such as shades. For architecture to employ new technology, it is no longer necessary to flaunt it. Now that it is accepted that steel, glass, and concrete are involved in the building process, it is no longer necessary or interesting to the general public to see it. Visual stimulation occurs with variety and color. Postmodernism also attempts to stimulate intellectual curiosity. It is a progression of design, and an acceptance of historical influence. Architectural history exists on most city streets; to deny its existence is untrue, while to accept it and design with it in mind is a sign of the maturation of society in that its past is respected, yet it can still move beyond and into the next technological age.

Michael Graves: The Architect

Architects of postmodernism can be classed according to two general categories. One includes those such as Philip Johnson who apply details to architecture, but their postmodernism is primarily a surface treatment. This is most visible in the design of postmodern skyscrapers where the facades are merely clad in a glass and steel skin. The structures and interiors have not really changed from modernist buildings, but their exterior is wrapped in a new fabric.

The other category includes architects such as Michael Graves who have taken postmodernism beyond the surface application of color and texture and created a new attitude toward architecture and design. He attempts to jar people's memory of historic architectural forms by using the form and renewing it through a reinterpretation. Graves does more than simply apply historic imagery to his facades. He takes the decoration one step farther and turns its shape into an integral part of the design process. In what has been interpreted as Graves' opinion of modernism versus postmodernism, Graves writes:

> If one's goal is to build with only utility in mind, then it is enough to be conscious of technical criteria alone. However, once aware of and responsive to the possible cultural influences on building, it is important that society's patterns of ritual be registered in the architecture.[50]

Communication is required to stimulate curiosity within the culture at large to discover the components of design within the building. This level of postmodernism reflects a level of reinterpretation of form and a search for new architecture. It does not seek the pastiche but it searches for the balance of old and new within a present time-frame, a new attitude toward history and the future in which forms from the past reach a new legitimate role in the architecture of today and tomorrow.

Michael Graves has become one of the leading American postmodernists, the

designer who comes closest to successful communication with architects as well as with the popular audience. His forms attract the architectural community with their interaction of shape, color, and spacial transition. The buildings are successful with the non-architectural world in that they are unusual and appear to be designed with the user in mind. One goal of postmodernism is to enhance communication and mutual participation between architects and laypeople. Michael Graves claims this to be one of the primary challenges in his designs.

> ... architecture is surely more than a system of communication. I tend to think that the communicative value of architecture, though necessary, exists primarily on the surface, and that what one is intimately interested in is a level of participation that involves the reciprocal act of ourselves with the figure of the building, which like good literature goes beyond communication and ultimately involves us in the text. 51

Michael Graves has taken postmodernism and the reinterpretation of historic forms further than most other postmodernist architects. He takes several historic elements and transforms them into the theme behind the design. The development of this theme is the key to communication, if it is clear, then all who interact with the building and its functions will be aware of the symbolism. If the theme is too abstract, then people do not understand the purpose of the decoration, and a feeling of alienation results.

Michael Graves has consciously challenged the role of historic forms and recreated them in a recognizable manner in a totally unprecedented function. As one specific example, he has taken the image of a keystone, apparently analyzed its original use and historic function as a structural and decorative feature, and suggested a new function and value in the architecture of today. Occasionally, the image of the keystone is not physically on the building but it is implied by its absence. A void exists in the shape of a keystone, thereby not actually showing a keystone but creating the intellectual dilemma of determining what is missing and why that shape might have been chosen. In other

cases, the keystone does exist but in a flattened form. These variations are all metaphors with the connotations of a keystone, such as its being the central feature of an arch, a symbol of strength and power. Through his work, it may be possible that Graves has attempted to establish a new architectural code, or order of proportions for historic elements in today's architecture.

> One assumes that in development of an architectural code, there is a transferral from the literal conditions of nature, which through the devices of metaphor and analogy are transformed into architectural form. This process involves a degree of abstraction. In moving from the tree to the column as representing the tree, one loses the original, figurative natural form which reminds us of its beginnings. The final abstraction becomes the plain cylindrical post, whose lack of identification of top and bottom, head and foot, capital and base, reduces our ability to make those original natural associations.[52]

The figure of a keystone has become a trademark image of Michael Graves' work. It is possible that Graves intends to abstract the image of the keystone to another level similar to the description of a column described above. The keystone evolved from the central and symbolically more structural stone of an arch to an elaborate decorative feature and symbol of prominence and status within society. Graves has taken the key-stone one step further and concentrated on its joining the features of two halves of an arch. The evolution from a central massing section of a house to a link across a river to a façade treatment will be discussed later as I deal specifically with Graves' work.

A History of the Keystone

The keystone as an architectural element has stood out as symbolically more important than other stones in an arch due to its central location. It is seen as possibly a more structural element than the other voussoirs. It is also seen as the joining or binding stone that provides the weight necessary to keep the two halves of the arch together. Ornamentally, the keystone has been an important element throughout architectural history because of its prominent location marking the entrance of a portal in a wall. Historically, there have often been elements of decoration drawing attention to portals and other building or wall openings. The keystone is one expression of this decoration.

> In theory, an arch may be explained as follows, *viz.* to consist of a series of stones, called voussoirs, in the shape of truncated wedges which resist each other, through their inclined sides , by means of that weight whereby they would otherwise fall, and are suspended in the air without any support from below, where a concavity is formed. The voussoirs are subject to forces which arise from their own weight, from external pressure, from friction, and the cohesion of matter; all these forces compose a system which ought to be in equilibrio; and moreover, that state ought to have a consistence firm and durable.[53]

The history of the arch is difficult to research as archaeological remains often include only the foundations of structures, with no obvious reference to construction above. The following quote provides a brief history of the form, from its earliest evidence to its possible patterns of influence.

> The earliest evidence for the use of arches is provided by vaults. Large-scale false arch forms occur extensively in Imperial Hittite architecture. The best preserved examples are the monumental gateways in the walls of the capital, Hattusas (Bogaskoy), built in the middle of the 2nd. millennium B.C. Their shape suggests a catenary curve. The techniques of a false arch passed from Asia Minor to Mycenaean Greece during the third quarter of the 2nd. millennium B.C., and a modified version occurs in the Lion Gate at Mycenae.[54]

Mycenaean architecture demonstrates the tendency to draw attention to the center door-ways by the use of a "relieving triangle" above the lintel block of a doorway. "This is an opening, often triangular, designed to reduce the weight over the lintel. The space was filled with some lighter stone or other material, which occasionally was carved."[55]

The Lion Gate of Mycenae, (1380-1190 B.C.)

This is corbelled and not a true arch, it is "a series of horizontal stones cantilevered out beyond the one below to form an arch profile."[56] The decoration over the portal estab-lishes its historic significance as related to keystones.

Where the voussoir was invented is not certain. Bricks arranged like voussoirs and dating to the 9th century B.C. have been found in tombs in Tell Halaf (North Syria). If the reconstruction of the excavations of Tell Halaf are correct, one at least of the arches they once formed was pointed. ...

The first exponents of arch construction in Europe seem to have been the Etruscans. It is conceivable that they brought this technique with them from Asia

Minor when they emigrated to central Italy, and the Greeks may have learned about arches from them. The question of whether the Romans learned from the Etruscans or from the Greeks is still under discussion. Either way, however, it was in Roman Italy during the Late Republican period that the arch was first exploited on a grand scale both as a structural device and a symbolic form.[57]

Interpretations of Vitruvius's architectural treatise, De Architectura, beginning in 1485 with Alberti, concentrated on the orders and the proportions of columns, arches, architraves and their relations to themselves. The issue of arches was not mentioned outside of vaulting and this only dealt with the actual construction of the vaults.

The writings, drawings and interpretations of Palladio (1508-1580) do not provide information on the keystone as a decorative element. His drawings show semicircular arches, but the overall form of the semi-circle is highlighted by a smooth form and narrow string courses around the curvature of the arch. The individual voussoirs that make up the form are not delineated. Occasionally small, sculpted keystones are located on the arch, but they do not appear to carry much weight in terms of decorative value.

It is apparent at this point that the keystone had begun to have a role outside of merely the middle stone of the arch. Palladio's text discusses the overall proportions of the arch in relationship to the height and width of the opening, but the individual decorative features are left to the creativity of the craftsmen within the constraints of the architectural orders. In his study of triumphal arches, Palladio measured several existing Roman arches and produced scaled drawings.

In 1611, The Book of Architecture, written by the Italian painter, architect and architectural theoretician Sebastiano Serlio, was translated into English. In this work, arches in portals, windows, and as triumphal arches are thoroughly discussed. Based on Palladio, the dimensions of the arch are given in terms of the height and width of the opening, as well as by the size of the individual members of the arch in relationship to the

overall whole. Serlio presented guidelines for a gate of the city in which the proportions

of the gate in relation to its width and height were established. A minor entry to the

town, cited simply as a gate, provides the following proportions:

> The proportions shall be, that the height of opening shall be twice as high as the
> breadth. The arch-stones of the halfe circle shall be nine; drawing upon the Center
> of the Circles. The facie under the arch shall be the seventh part of the Gates; from
> the facie downwards to the pavement, shall be divided into seven parts and an halfe,
> and shall be five stones broad: three whereof shall be each a part and an halfe, the
> other three of one part: and thus the seven parts and an halfe are divided. The
> height of the middlemost Arch-stone, of the closing stone, which you will, shall be
> halfe as broad as the Gate. The facie above the arch-stone, must be as broad as a
> foot, that is, the thinnest part of the said stone: but the middlemost Arch-stone, and
> also the foot under, shall be a fourth part broad.[58]
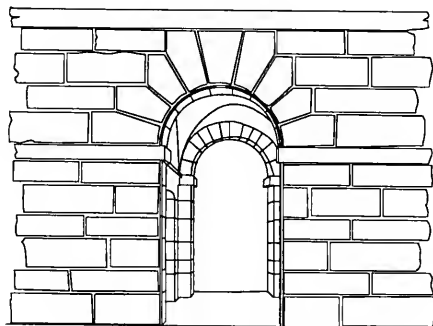
Tuscan Gate of Sebastiano Serlio

In a study of the arcade,[59] which appears to be based upon the Roman aqueducts,

Serlio proposed the following about the proportions of the keystone in relationship to the

arch.

> The facie shall be the seventh part of the wideness as height: from the facie down-
> wards is divided into six parts: the half-circle into nine parts and a quarter, for the
> closing stone is the fourth part more that the others: the rest may be found with the
> compass.[60]

Etruscans. It is conceivable that they brought this technique with them from Asia
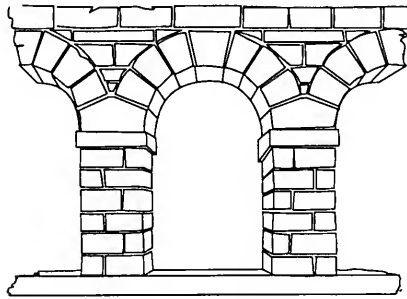
Arch for an aqueduct

Keystones were not used as prominent elements of architectural ornamentation until the mid-18th century. Surprisingly, mannerists such as Michelangelo or Bernini, did not use articulated keystones in their architecture. Instead, their arches were smooth and unaccented, in order to elaborate the surrounding surfaces of their structures. If keystones were used, they were very small and unadorned.

The keystone was further developed by the English architect, Inigo Jones. Having travelled through Europe, Jones is credited with bringing Palladio's designs and theories to England. In his personal copy of I Quattro Libri Dell Architettura di Palladio, Inigo Jones commented on the slenderness of Palladio's keystones. He noted that the keystones had a length equivalent to half the diameter of the bottom of the column.[61] Jones commented on the proportions and the rustication of the keystones on many of Palladio's drawings. The influence is apparent in his own work, published in 1744 by William Kent, in which Jones used many of Palladio's ideas on proportion, but strongly accented the use of the keystone.

Apparently influenced by Serlio, Jones might have enhanced the image of the keystone to an extent that it became popular in architectural detailing as a symbol of

and social status. This is reflected in the prevalence of accented keystones in architectural pattern books that were published during of shortly after this time period. The keystone became a symbol of prominence that extra attention could be applied to the elaboration of the portal to a building. The following images are shown to explore Jones' use of the keystone. Although the quoins are more prominent than the keystones in these images, the use of the decorative keystone is apparent.

Designs for Rustic Doors by Inigo Jones

The next set of images demonstrates the variations from Jones' designs that also became popular. William Kent designed the first two rustic gates, while Inigo Jones designed the third, Doric gate.

Rustic gates, the two first were designed by the Earl of Burlington, the other, which is Doric, by Inigo Jones, the Height of the opening is twice the breadth and the recess is one sixth part of the breadth.[62]
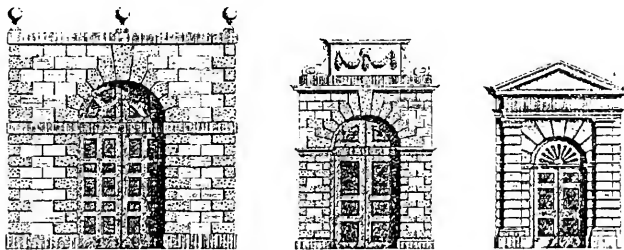
Designs for Rustic Gates of William Kent and Inigo Jones

In 1746, Batty Langley, an English landscape gardener, author, teacher, and architect, published The Builder's Director or Benchmate. This builder's guide does not address theory since it was created as a collection of drawings giving the relative proportions for common architectural features. The use of the keystone as an architectural embellishment is apparent in the fact that Langley devotes sixteen plates solely to the proportion of keystones within the portal or window and the proper decorative carvings of the keystone itself[63]. The proportions of Jones and Serlio were more delicate in relationship to the overall whole. Langley had a tendency, in simplifying the form, to create proportions that, in accenting the keystone, overpowered the other decorations of the door. The keystone varies between a third to a quarter of the span of the arch or lintel as compared to the approximate quarter as seen in Serlio's images.

The following images are from Langley's book. The proportion of the keystone in relation to the arch and opening is apparent through closer analysis of the units. For this section, the images are useful for understanding the continued influence of the proportions of classical orders in English and American architecture. A thorough analysis of the proportions of the keystones will be discussed later. Each image shown is that of an arched entry gate or portal. As these are the most elaborate of Langley's portals, these may be intended as the primary entrance to the building.

The Tuscan Order   The Doric Order
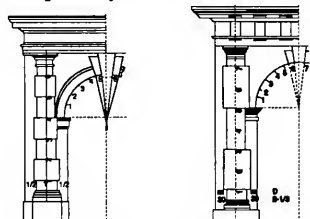
The Ionic Order   The Corinthian Order
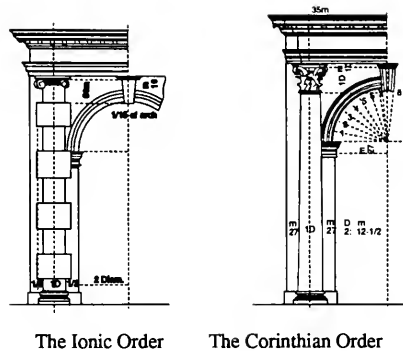
Abraham Swan, another English architect who is known for publishing several builder's guides and pattern books that were popular both in England and in the American colonies, published The British Architect in 1757. The following images are from this book and express in greater detail the decorative elements of keystones and their embellishments. Swan does note that the keystones are to be the same width as the architrave. This would make the keystone, although more elaborate and sculptural, proportionately smaller than those seen in the designs of the architects discussed earlier. Swan's keystone is approximately one-tenth of the overall the size of the arch or the lintel. This may have been an attempt on the part of Swan to return to the original proportions of Palladio.
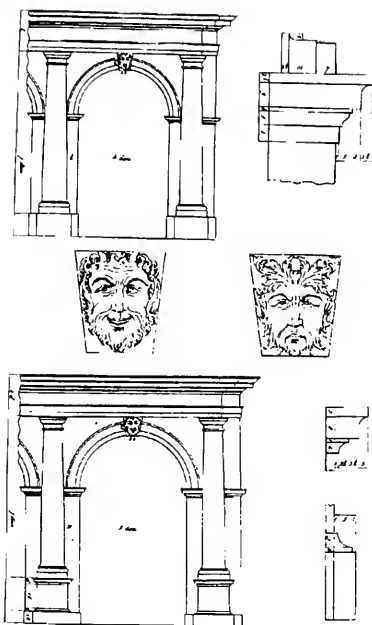
The Tuscan Order
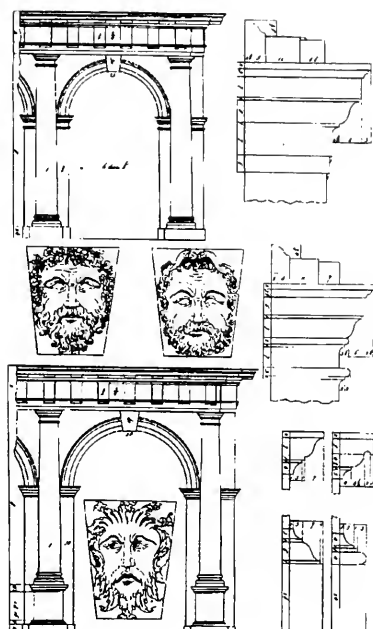
The Doric Order
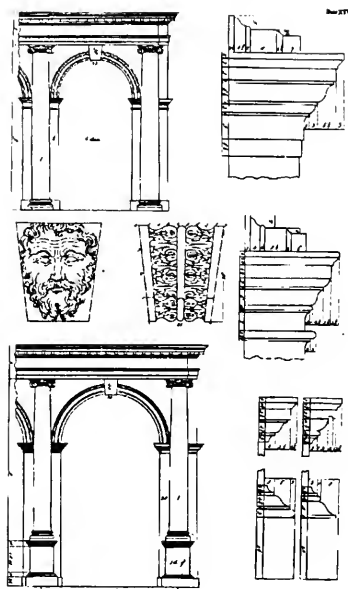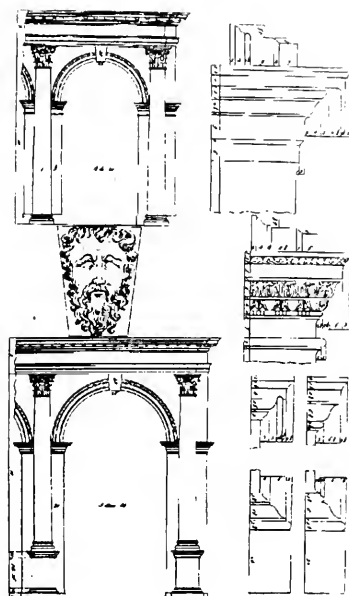
The Ionic Order   The Corinthian Order

Michael Graves: The Architecture

The keystone, abstracted from its location on an arch, as in the architecture of Michael Graves, seems to have become a metaphor for order, authority, and government. This is expressed by its role in history as drawing attention to portals and windows through elaborate decoration. By using the term 'metaphor' for an expression in architectural design, one indicates that a detail taken from historical architecture can be expressed in a new manner. For example, this could involve proportion, location in reference to the entire structure, or material. This metaphor presents an image with connotations of the past as well as interpretations relevant to present day architecture. Graves' appears to rely upon the reinterpretation of historical elements as a theme in his design process. His architecture is therefore expressive of postmodernism in its use of decorative surfaces for communication of the intent or purpose of the structure, as well as its role as public art within its immediate context. The following section will explore the use of the keystone and its applied metaphors on three of Michael Graves' buildings.

Plocek House

Warren, New Jersey, 1977
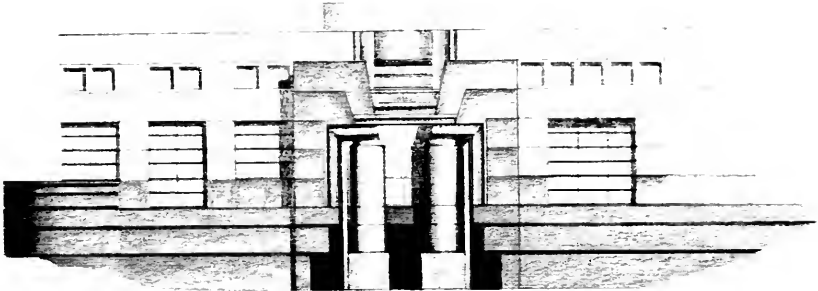
Plocek House, preliminary street elevation

The keystone of the Plocek, (or Keystone) House, designed in 1977, is symbolic of the entire house being a portal between building and landscape. The keystone itself becomes a game in which its presence is implied on one façade but is actually located on another façade. The standard 'set' of base, columns, capitals, architrave, and pediment is dislocated and attached to various parts of the front and rear façades. This fragmentation of a historical form is part of Graves' reinterpretation of historic elements as a tool of communication between the architect's design intent and users who encounter the building.

The building is nestled into a wooded hill, thereby becoming part of the landscape as well as a built form. The house is divided into the lower floor, main level or *piano nobile*, and attic or private floor. This tripartite division is a visible acceptance of classicism. Due to its location nestled into a hill, the entrances are on the lower floor as well as the primary floor, the *piano nobile*.

The keystone, or lack thereof, on the front façade turns the entire massing of the

middle portion into that of a two-and-one-half-storey arch. The ground floor base extends up to accentuate the central block and the voussoirs are rusticated to resemble the portals of Serlio and Inigo Jones. The large columns 'supporting' the arch are without capitals and do not come into contact with the arch. This middle portion is not symmetrical but its apparent massing stemming from the rustication of the portal and the base floor, present it as the dominant feature of the façade.

The gaping hole of the missing keystone was Graves' tool to engage the viewer's curiosity to ponder why the stone is missing, and what that absence might symbolize. Graves' initial intent was to include the keystone, but its proportions overwhelmed the massing of the house and the client felt that it was too strong an image for the street façade.[64]

Unfinished symmetries and dislocated historic elements are evident throughout the Plocek House. The game of separate keystones, columns, and bases scattered about the façades is best explained in Graves' response to the question, "Why build a ruin, half a symmetrical whole?"

> Partly,... because the unfinished state, like a ruin, allows various completions to be imagined, and also because fragments have a potency to evoke an unsettled metaphysics which characterizes the present. The Plocek house seeks whatever completion it can in nature, by nestling into a hillside, by figure/ground reversals with the landscape and its cut-out V-shapes (or keystones), and by forming part of a long promenade to a water source.[65]

The missing keystone draws attention to the image of the building as an arch between structure and landscape, as well as the keystone over a door as a symbol of prestige and social status. By removing the keystone, Graves may be saying that it is not necessary to have the ornamentation of a keystone to prove social status; its absence however, allows the viewer to complete the picture, thereby making the keystone more

prominent. As a traditional element, a keystone over the door still implies a home with the additional benefits of wealth. Rustication along the base and around the portal suggests the protective and defensive qualities of safe shelter. The massing by the rustication accentuates the absence of the keystone.

> [The] rustication at once threatens and welcomes; the pediments display and are themselves the noble insignia. Beyond all else the keystone is the compelling fact; it compresses and expands. It is also the most intensely structural fact, and at the same time the most ambiguous one: it holds the entrance together by pushing it apart. In the Plocek scheme it dominates by its absence. Where it would be weighing down upon the doorway there is only a void. The weight is not there. Only after penetrating the house will one discover that the keystone has been built up at gigantic scale as a separate building.[66]

The rear façade has two large keystones, neither of which is the correct proportion for the front façade. One is above the garden entrance and is hovering over a small window. It is centrally located between two columns that again do not have capitals or appear to support anything. The other keystone is larger, and in a similar manner, hovers over a window, supported by small columns that do not have capitals, or bases and do not come into contact with the ground. The purpose of the keystones on the rear façade appears to be decorative. The initial metaphor for the shape, connotative of prestige, home, and archway was satisfied by the void on the front façade. On the rear façade the keystones stand out as interesting shapes, since the image of an arch is not visible, though if any symbolic value has been applied to these two keystones, then it is not apparent.
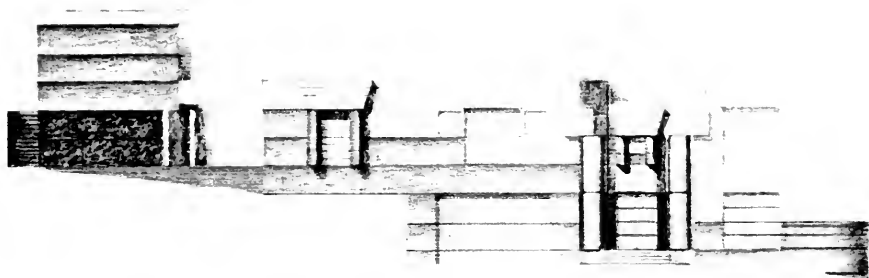
Plocek House, preliminary court elevation

Behind the main structure of the house is the garden and another structure that serves as the study pavilion. The massing is a square block dominated by a large keystone. This is seen as the keystone removed from the main façade, although the proportions are too large to fit into the void.

In the composition, house and landscape are made formally interdependent. Along the primary axis, a gate relating to the basement story is pulled away from the front façade while the study pavilion in the garden is seen as the keystone removed from the mass of the upper portion of the house. The relationship of the house to the site is clarified by the understanding that these elements have been displaced and are located along the processional axis of the house.[67]
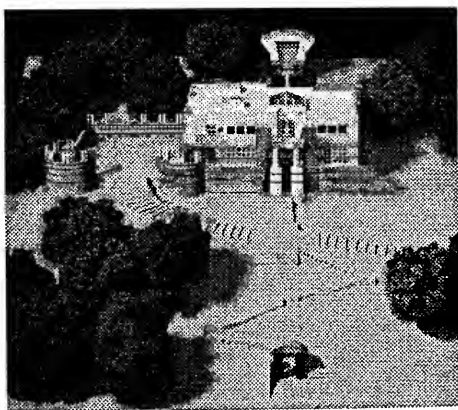
Plocek House, model view of the street façade

The relationship of the structure to the natural landscape is expressed in the larger imagery of the house as an arch or portal between the man and nature.[68] The plan has two V-shape voids, interpreted as the keystone symbol, which act as funnelling agents to regulate circulation. The keystone voids are wider at the exterior wall and become narrow upon entering the home. It is as if the freedom of nature is expressed in the openness, while the constricting location of the walls reflects the enveloping protection of shelter.
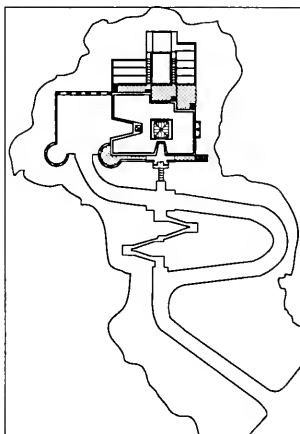
Plocek House, site plan

The symbolism of the keystone in plan becomes a mode of circulation and entry. The metaphor, however, is very complicated and has a tendency to become lost in its abstraction. The keystone is apparent on the façades, but its influence and purpose in the plan is not strong enough to engage the viewer's curiosity without prompting. It is not apparent in the plan, except by careful examination for V-shaped forms, where a key-stone shaped-room would be located. The metaphor for a portal is not successfully translated into the plan. The Plocek House therefore, has the effect of supporting the opinion that postmodernism is primarily a surface application that does not transcend the entire evolution of the design.

Fargo-Moorehead Cultural Center

Fargo, North Dakota and Moorehead, Minnesota, 1977
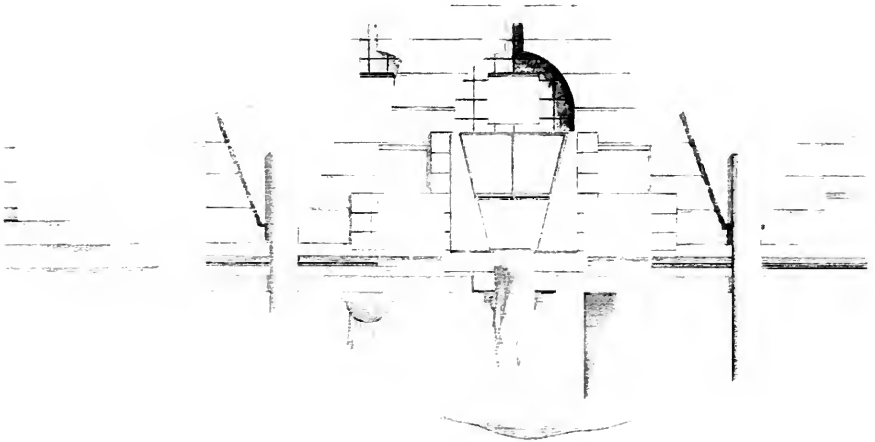
Fargo-Moorehead Cultural Center, detail of South façade at bridge

The Fargo-Moorehead Cultural Center in Fargo, North Dakota and Moorehead, Minnesota, designed in 1977-78, is less of an abstract game of forms than is the Plocek House, but it is still an unusual reinterpretation of the keystone. The building's program is unique in that it physically links two communities that are in different states and separated by a river. The cultural center includes a vehicular bridge, an art museum, a separate history museum, a concert hall, and public radio and television stations.[69]

The keystone element is centrally located on the bridge which contains the art museum. The concert hall and radio and television stations are on the Fargo side of the bridge, while the history museum is located in Moorehead. The division of space on the bridge, like in the Plocek House, is based on tripartite levels in which the basement is the river, the vehicular and pedestrian circulation is the *piano nobile*, and the art museum is the attic floor.

The metaphor of the keystone is employed to figuratively link the two communities, states, and halves of the continent together in a manner similar to the linking of two halves of an arch with the central voussoir. As with the Plocek House, the keystone is actually a void, which by omitting the shape actually makes its image stronger, employing the imagination of the viewer to complete the form.

The keystone is a window through which the people on the interior are reminded of their location over the river and at the crucial linkage point between the states and communities. On the exterior, the glass of the window reflects the water and the sky, turning the metaphor of the keystone as the missing link between two communities into a yet another

metaphor of a "scupper which collects the sky and replenishes the river below through a waterfall which issues from [the base of the keystone]."[70] The image of the waterfall spilling from the keystone is apparently derived from the Fontaine de
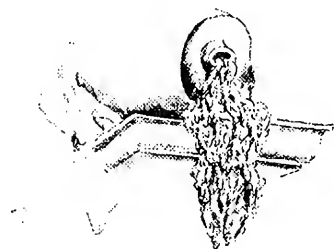
Michael Graves sketch

Marie de Medicis by Jacques de Brosse.[71] The sketch by Michael Graves is a study of the tipped vase which is spilling water into the fountain.

Aside from the visual reminder of the window at the central point of the bridge, there is no transition of the linking keystone metaphor into the plan. Even then, it is only a window; the published images of the building do not convey whether it is possible to comprehend the keystone shape of the window from the interior. Many of the preliminary sketches of the bridge include the keystone motif as the linking element, but do not describe its internal expression.

The keystone metaphor is not as abstracted on this building as with the Plocek House. The image of the house as an arch and the keystone as a traditional symbol of status is not as strong or readily apparent as the linking image of the keystone in an arch or lintel. For this reason the metaphor as applied to the Fargo-Moorehead Cultural Center is more successful and may come closer to communicating with the general population as to what its new interpretation is. It is, however, questionable whether the general public is ever in a position to see the building at a distance sufficient to comprehend the keystone as joining the two communities.

The more public function of the cultural center may have contributed to the less abstract form of the keystone than in the Plocek House. It may also be Graves' re-evaluation of the abstraction element in postmodernism. There is a spectrum along which abstraction beyond a certain point becomes alienating because it is unclear to the viewer what is expressed or what the intention of the designer was in creating the space. This was an error of modernism in that the purity of form created level of abstraction that was only understood and appreciated by a select few. A design element that can only be understood by the architect and a select few within the architecture community is a feature that postmodernism attempts to avoid. Robert Venturi criticized modernism for alienating the public due to this level of abstraction. Perhaps Graves is making the reinterpretation of the keystone in the Fargo-Moorehead Cultural Center more clear in an attempt to openly communicate and interact with the viewers of the building, rather than complicate the issue to such an extent that they are unaware of its design intentions.

Portland Public Service Building

Portland, Oregon, 1980
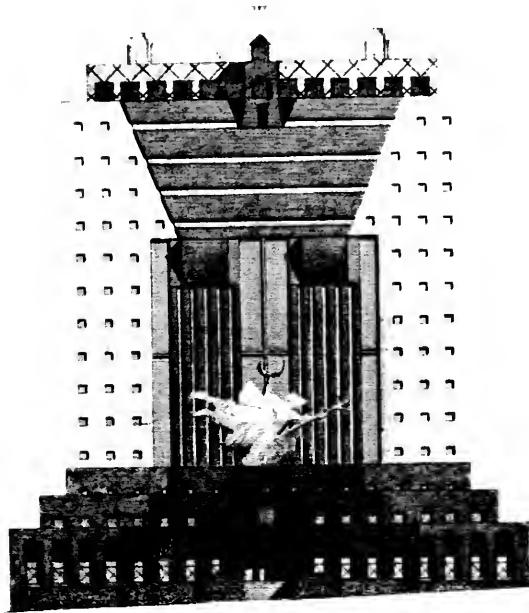
Portland Building, preliminary street elevation

Michael Graves' movement to a simplified abstraction of historic forms reached another level with the Public Service Building in Portland, Oregon, completed in 1982. Heralded by architectural critics such as Paul Goldberger of the *New York Times*, and Charles Jencks in What is Postmodernism?, as the first major monument of postmodernism. As a public structure, the Portland Building was subject to considerable attention from critics. Some critics were concerned with whether or not the building was merely a modernist 'box' without the glass exterior. According to Graves, the building façade symbolizes a large arch with garland-like ribbons as a symbol of welcome and to

herald the celebration of *Portlandia*, the city's Lady of Commerce on the seal of Port-
land.[72]
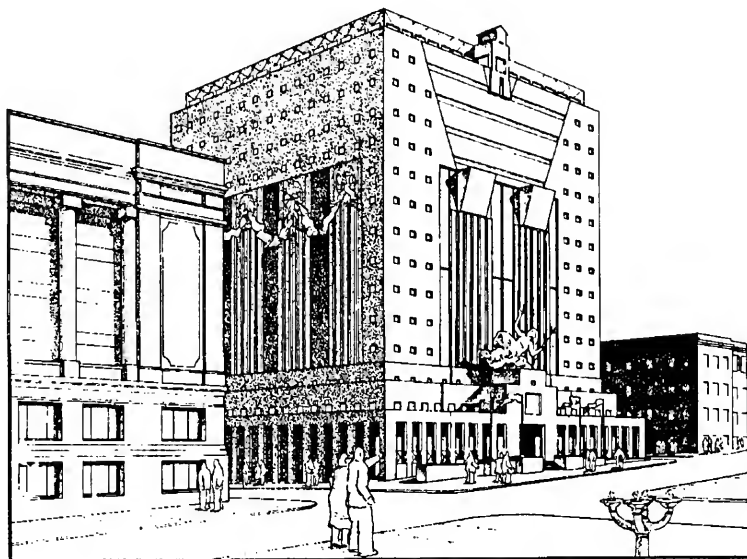
Portland Building, view from Fifth Avenue

The fifteen-storey building is divided into classical tripartite sections: that of the
base, the middle or shaft, and the cornice or capital. As was typical with early skyscrap-
ers, the building becomes an analogy for a column. According to Graves, the structure is
also intended to be read anthropomorphically[73]. The base is also the feet, the middle
section the body, though the head was lost due to a tight budget. The 'head' of the
original design included a series of temples in a roof garden setting that would have
completed the body as well as the column analogy. Divisions are highlighted by a dark
granite substructure for the base and a light colored facing on the 'body' section dotted
with small rectangular windows. This portion of the building is divided in the middle
with a seven-storey reflective glass window with two pilasters in front. The pilasters
have projecting capitals, and are surmounted by a four story flat keystone. The window

accents the pilasters and also creates the image of the surrounding middle section of the building as an arch accented by the keystone.

> These classical elements were meant to be a metaphor for the function of the building: the middle floors of governmental offices were to support two floors of rentable commercial offices at the top of the building. The reflective glass window behind the pilasters is both a reference to the modernist façade ... as well as to Portland's commercial and climatic link with water. The "colonnades" of pilasters on the Madison and Main facades are strung together with flattened classical garlands that are a traditional civic symbol of welcome according to Graves.[74]

According to Graves, the analogy of the arch is to form the transition, like the Plocek House, between structure and nature. On one side of the building is a mall and central business district of Portland, on the opposite side is a large park. There is, however, no entrance on the park side of the building, making it a one-way transition.

The metaphor of the arch, keystone, and garlands received both criticism and praise locally and nationally, from lay people and architects alike. Praised as the first post-modern high-rise structure[75] it was also criticized as merely fanciful wrapping of a modernist building.[76] The metaphors may be visible, since it is difficult not to see the pilasters and keystone, but the proportions are still beyond human scale.

The interior does not present innovative alternatives to office space and is criticized for maintaining the standards of interior open space as developed by modernists. According to the people who use the building, the public space of the lobby, despite Graves' colorful murals which decorate the walls, is "dark, dingy , doesn't welcome visitors and has been compared to the inside of a swimming pool."[77] "In fact, the City is so disappointed with the lobby that it is already planning to renovate it."[78] In contrast to the user's perspective, the architectural community in favor of the building feels that Graves has been successful in bringing postmodernism into the realm of high-rise design. According to Paul Goldberger, architectural critic for the *New York Times,* the lobby and

entrance are as follows:

> The public rooms and the sequence of entry spaces on the main floor, which were all designed by Graves, are superb. They offer homage to the formal, two story entry vestibules of classical courthouses, but the motifs are all Graves' own.... These interiors rely heavily on color, on a carefully controlled processional sequence through changing and tightly defined spaces, and on an attempt to use fabric, wooden moldings, and wood and plaster to evoke traditional forms of ornament. The end result is a most extraordinary balance of nobility and ease. There is a certain sternness to these Graves' rooms. For all their color and decoration, they create a powerful presence.[79]

The last two quotes demonstrate the divergent reactions to postmodernism. The initial intention of the movement was to reestablish communication between the architect and the general public that experiences the building. It is apparent with the Portland Building, that the architectural community reacts to the building in an entirely different manner than the general public. Architects criticized the building for betraying modernism by wrapping it in unnecessary decoration and color and calling it a new style of architecture. Perhaps the most critical and accepted description of the building came from modernist, Pietro Belluschi in a letter to the city council.

> There is no longer any distinction between ugliness and beauty at least in the old sense; everything is permissible; innovation need not spring from any deep experience. Discipline, the back-bone of architecture as a civic art, is ridiculed. They [postmodern architects] have discovered that frivolous means get immediate attention, and that fashions need not last. They tell us that content and expression, function and form have no more fundamental a connection in architecture than in scene painting, dressmaking or hat design. So they demolish the hated glass box and erect the enlarged juke box or the oversized beribboned Christmas package, well knowing that on completion it will be out-of-date.[80]

The Portland Building generates controversy: people either love it or hate it. Published opinions of the building have tended to carry only the extremes. Apparently, the sole aspect of the structure that the public will generally agree upon is that they like the sculpture of Portlandia which is located above the primary entrance to the building.[81]

A cross between Art Deco ornamentation and Beaux Arts sculpture, the "Lady Commerce" as a symbol of Portland has actually succeeded in achieving some link between the building and the people.

> Graves is the farthest away from his modernist fathers with the sculpture of *Portlandia.* Where the moderns advocated ornamental silence, Graves has devised a didactic figure in the Beaux Arts stylistic tradition. Though his design may strike some as out of date, *Portlandia*'s form and function have been warmly embraced by the general population. [82]

The design for the Portland Building has apparently failed at transferring the symbolism of the keystone to the public at large. Making the arch analogy of the entire building become the transition point between building and landscape, town and garden, fails because there is no through-passage within the building to the park. If an axis had been established so that people could actually walk through the arch/building from the city to the garden, the symbolism would have been more successful. The symbol of the arch and keystone as representative of government and prestige are also apparently lost on architects and public alike since it is only mentioned in published articles when directly quoting from Graves' design intentions.

Despite the commendable intentions of Michael Graves to use historic symbolism as a tool to encourage interaction between people and architecture, postmodernism has followed in the footsteps of modernism and alienated the people that it was trying to attract. The Portland Building has come off as the superficial cloaking of a modernist structure in color and symbol. The only successful aspect of the building is the sculpture of *Portlandia.* The historical symbolism which was to be the strongest tie to the viewer's memory in terms of creating a familiar image and redesigning it for a role in today's architecture turned the building into a caricature of both modernism and classical eclecticism. Graves may be going in the right direction toward a more inviting architecture, and

the Portland Building may mark a turn in architecture toward a more successful communication, but for now the symbolism has not succeeded in creating an architecture that pleases the majority of its viewers. This stands as an example of how postmodernism is not a break from modernism, but rather a continuation of its ideas, both strengths and weaknesses, in a new direction.

Keystone Analysis

The graphic analysis of keystones to follow is intended to establish a pattern between the proportions of Michael Graves' keystones on the three buildings mentioned earlier, (the Plocek House, the Fargo-Moorehead Cultural Center, and the Portland Public Service Building), and the proportions of other traditional keystones located on a flat arch or lintel. The images for the latter were difficult to find in the treatises. The four inter-pretations of Palladio that I examined[83] do not have many images of keystones, and when shown they are on rounded arches as opposed to the flat arch necessary for the analysis. Images of flat arches with accented keystones were found only in the writings of Sebastiano Serlio in The Five Books of Architecture, published in 1611, and Inigo Jones in The Designs of Inigo Jones, by William Kent, published in 1727, and Batty Langley, The Builder's Director or Benchmate, first published in 1746. The collection of Abraham Swan, mentioned earlier, was not analyzed as it does not include examples of keystones on a flat arch.

The methodology will involve elevations and progression. Each of Graves' buildings were drawn from published images of the front elevations (Diagrams A, B, and C). Directly below each elevation drawing is a similar elevation in which the keystone and portal or lintel is accented. The third drawing below is the keystone and portal or lintel isolated from the rest of the façade. The purpose of this three-step elevation is to express a logical progression of the keystone and portal or lintel from which subsequent measurements were made. Similar progressions of elevation drawings were made from Serlio (Diagram D), Jones (Diagram E), and Langley (Diagrams F-H). Occasionally it was not necessary to complete the third step because the second elevation was sufficient.

Once the drawings were completed, the following measurements were taken:

overall width of the portal or lintel and overall height; opening width of the portal or lintel; height of the lintel and keystone if different; and keystone widths at the top and bottom. In order to present the relationship between the keystones of the various drawings, the following series of ratios were established: the ratio of the top width of the keystone in relation to the width of the lintel; the ratio of the bottom width of the keystone in relation to the width of the lintel; and the keystone height in relation to the overall height of the portal or lintel.

In the case of Serlio's Doric gate, the measurements of the central voussoir, the true keystone, and the entire keystone ornament of seven voussoirs, were taken. This was due to the fact that the central keystone was not intended to be noticed more than the entire ornament which as a whole also resembled a keystone. The same was the case with both drawings from Inigo Jones. In this case, the measurements for the central voussoir as well as those for the five voussoir ornament were taken.

The ratios were then compared between the various keystones. The proportion of the top to the keystone in relation to the overall lintel width was comparable between all four of the drawings of Serlio and Jones with the Tuscan order of Serlio and the rustic door with architrave of Jones being of the same percentage at 25% of the lintel. The proportions in each of Langley's doors vary according to the architectural order on which they were based. For the top width of the keystone in proportion to the lintel, they are as follows: 13% for Tuscan, 12% for Doric, 11% for Ionic, 6% for Corinthian, and 9% for Composite. This similarity also existed with the height of the keystone in relation to the overall portal height. All of Langley's keystones were within the percentage of 9 and 11% of the overall height of the portal. Serlio's and Jones' keystones were within the percentage of 16 and 23% of the overall height of the portal.

These similarities did not occur with the keystones of Michael Graves' buildings. Even with the Portland Building, compared to the five- and seven-voussoir ornament measurements, these ratios were not similar. Within themselves, the Graves ratios do not appear to establish any patterns. If this had occurred, it may have been possible to hypothesize a logic within Graves' keystone proportions that may have led to his own architectural order. This, however, is not the case. It appears to be that the proportions of Michael Graves' keystones were chosen for aesthetic reasons, and not based on a historic precedent as established by Sebastiano Serlio, Inigo Jones, or Batty Langley. This, of course, only includes three of possible hundreds of books written on correct proportions of architectural elements. Serlio, Jones, and Langley were chosen for comparison, as mentioned before, because they did choose to include drawings of flat lintels in which comparative proportions of keystones and lintels, relevant to an analysis of Graves' buildings, were readily obtainable.
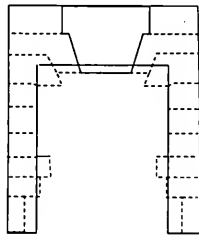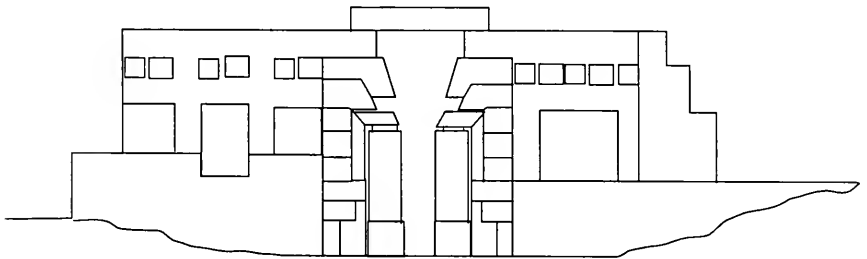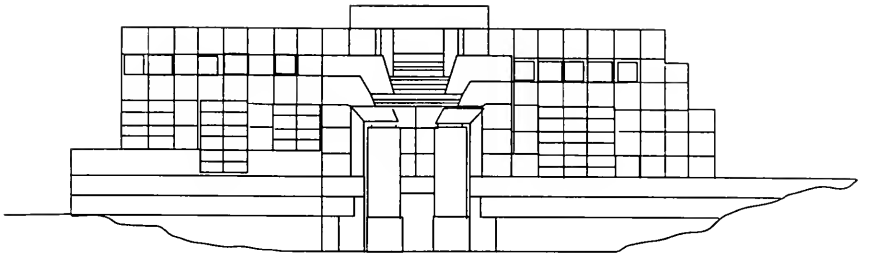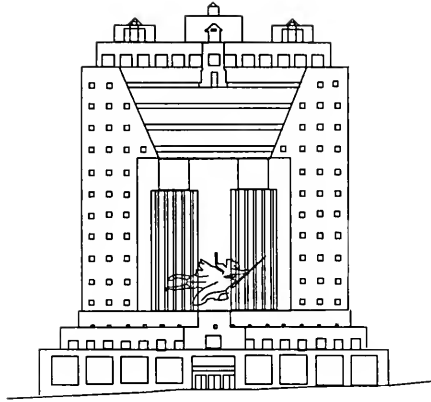
Diagram A: Plocek House
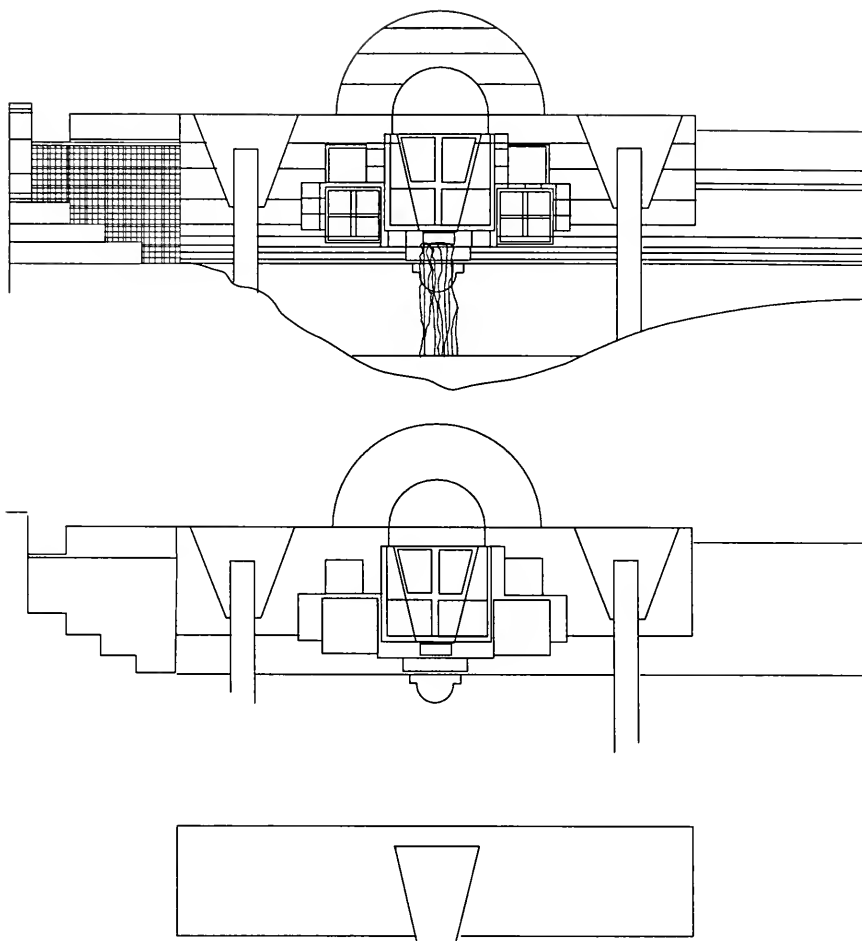
Diagram B: Fargo-Moorehead Cultural Center
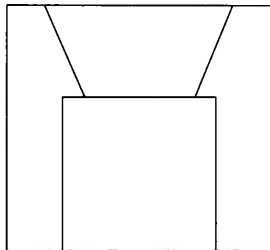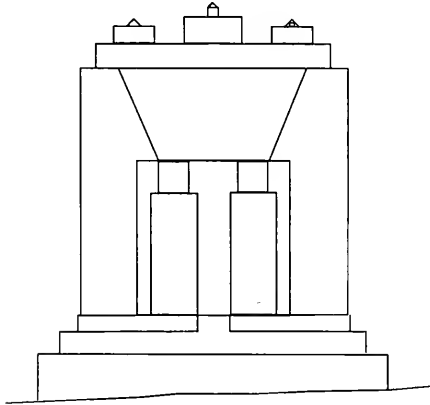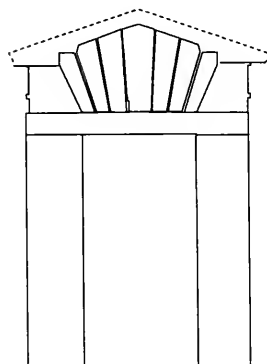
Diagram C: Portland Public Service Building
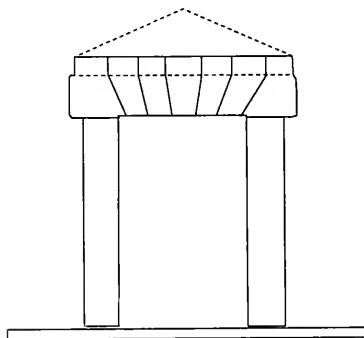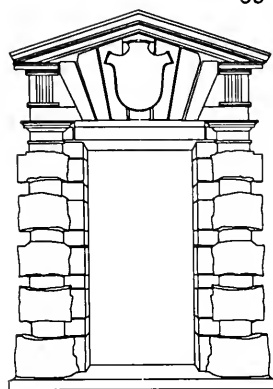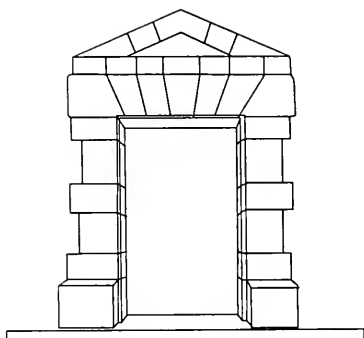
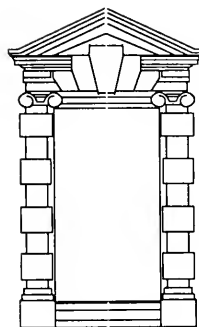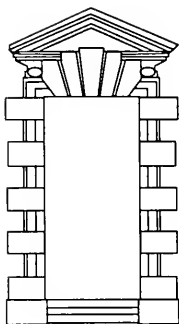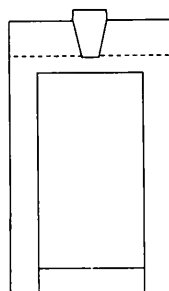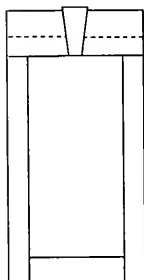Diagram D: Sebastiano Serlio's Tuscan (left) and Doric (right) Gates
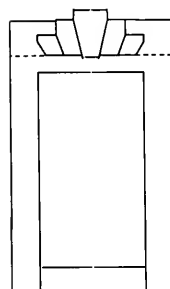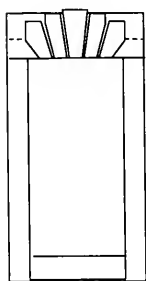
Five voussoir keystone

One voussoir keystone
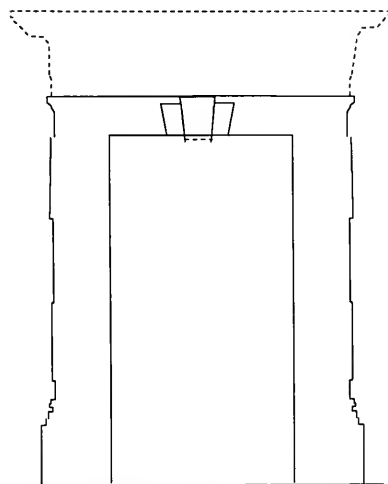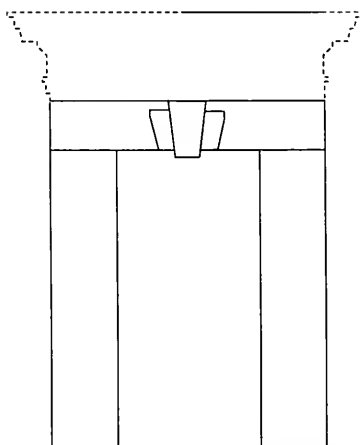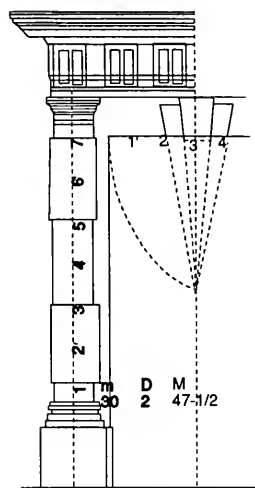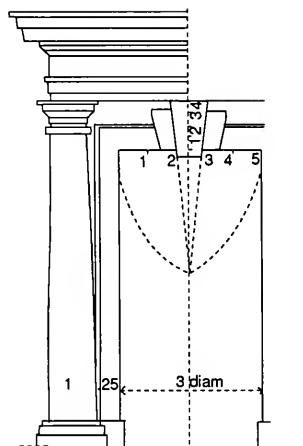
Diagram E: Inigo Jones Doors, Doric (left) and Ionic (right)

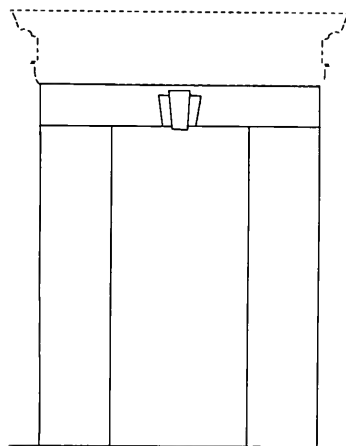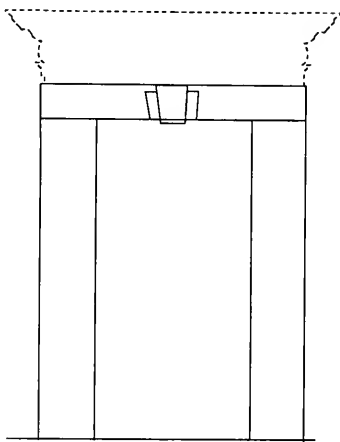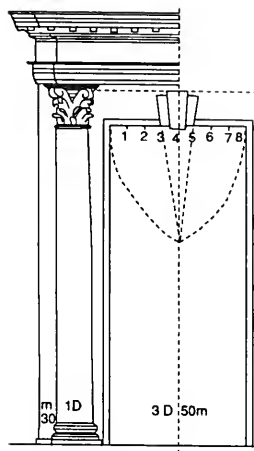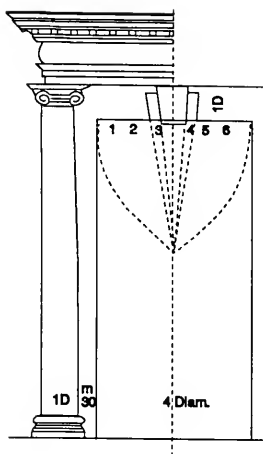Diagram F: Batty Langley's Tuscan (left) and Doric (right) Doors

Diagram G: Batty Langley's Ionic (left) and Corinthian (right) Doors
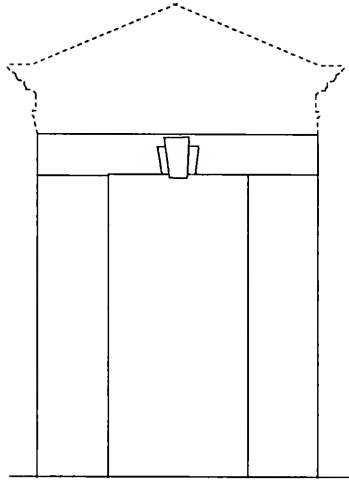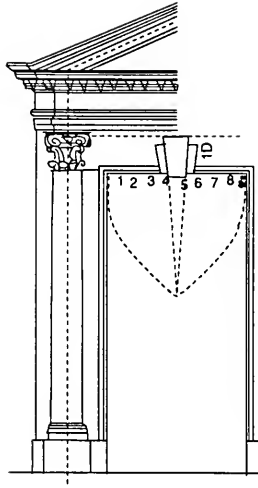
Diagram H: Batty Langley's Composite door,

Numerical Analysis
Michael Graves' Buildings

Plocek House 1/4" = 1'-0"   Diagram A

Overall width of house portal		6'-2"	= 74"
height		6'-4"	= 76"
opening width of house portal		4'-4"	= 52"
height		4'-11"	= 59"
lintel height		1'-5"	= 17"
keystone	top width	2'-5"	= 29"
	bottom	1'-5"	= 17"
lintel	top width	6'-2"	= 74"
	bottom	6'-2"	

29/74 = .35 = 39%   top width of keystone = 39% of lintel and overall
17/74 = .23 = 23%   bottom width of keystone = 23% of lintel
21/76 = .28 = 28%   keystone height vs. overall portal height = 28%

Fargo-Moorehead Cultural Center   1/4" =1'-0"   Diagram B

Overall width of bridge lintel		14'-5"	= 173"
height		3'-0"	= 36"
keystone	top width	2'-5"	= 29"
	bottom	1'-1"	= 13"
	height	2'-8"	= 32"

29/173 = .17 = 17%   top width of keystone = 17% of lintel
13/173 = .07 = 7%   bottom width of keystone = 7% of lintel
32/36 = .89 = 89%   keystone height vs. overall lintel height = 89%

Portland Public Service Building   1/4" = 1'-0"   Diagram C

Overall width of building portal		7'-5"	= 89"
height		6'-10"	= 82"
opening width of building portal		4'-4"	= 52"
height		4'-3"	= 51"
lintel height		2'-7"	= 31"
keystone	top width	5'-2"	= 62"
	bottom	3'-1"	= 37"

62/89 = .70 = 70%   top width of keystone = 70% of lintel
37/89 = .42 = 42%   bottom width of keystone = 42% of lintel
31/82 = .38 = 38%   keystone/lintel height v. overall portal height = 38%

Sebastiano Serlio <u>Five Books of Architecture</u>

<u>Tuscan order Gate</u>   1/4" = 1'-0"   Diagram D

Overall width of gate portal		10'-3"	= 123"
height (+ architrave w/o pediment)		12'-11"	= 155"
opening width of gate portal		5'-11"	= 71"
height		10'-1"	= 121"
lintel height		2'-9"	= 33"
keystone	top width	1'-8"	= 20"
	bottom	1'-2"	= 14"

20/123 = .16 = 16%   top width of keystone = 16% of lintel
14/123 = .11 = 11%   bottom width of keystone = 11% of lintel
33/155 = .21 = 21%   keystone/lintel height v. overall portal height = 21%

<u>Doric Order Gate</u>   1/4" = 1'-0"   Diagram D

Overall width of gate portal		8'-3"	= 99"
height (+ architrave w/o pediment)		12'-1"	= 145"
opening width of gate portal		5'-11"	= 71"
height		10'-1"	= 121"
lintel height		2'-0"	= 24"
keystone	top width	1'-3"	= 15"
	bottom	8"	= 8"
seven voussoir keystone top width		6'-0"	= 72"
seven voussoir keystone bottom width		4'-6"	= 54"

15/99 = .15 = 15%   top width of keystone = 15% of lintel
 8/99 = . 8 = 8%   bottom width of keystone = 8% of lintel
72/99 = .72 = 72%   top of seven voussoir keystone = 72% of lintel
54/99 = .54 = 54%   bottom of whole voussoir keystone = 54% of lintel
24/145 = .16 = 16%   keystone/lintel height v. overall portal height = 16%

Designs of Inigo Jones, by William Kent
Design for rustic door with Architrave   1/4" = 1'-0" Diagram E

Overall width of gate portal		3'-8"	= 44"
height (+ architrave w/o pediment)		7'-3"	= 87"
opening width of gate portal		2'-9"	= 33"
height		6'-1"	= 73"
lintel height		1'-3"	= 15"
keystone	top width	11"	= 11"
	bottom	5"	= 5"
	height	1'-5"	= 17"
five voussoir keystone top width		2'-10"	= 34"
five voussoir keystone bottom width		2'-2"	= 26"

11/44 = .25 = 25%   top width of keystone = 25% of lintel
5/44 = .11 = 11%   bottom width of keystone = 11% of lintel
34/44 = .77 = 77%   top of five voussoir keystone = 77% of lintel
26/44 = .59 = 59%   bottom of five voussoir keystone = 59% of lintel
17/73 = .23 = 23%   keystone height v. overall portal height = 23%

Design for rustic door with Ionic three quarter columns   1/4" = 1'-0" Diagram E

Overall width of gate portal		4'-5"	= 53"
height (+ architrave w/o pediment)		7'-3"	= 87"
opening width of gate portal		2'-9"	= 33"
height		6'-4"	= 76"
lintel height		11"	= 11"
keystone	top width	9"	= 9"
	bottom	5"	= 5"
	height	1'-1"	= 13"
five voussoir keystone top width		2'-9"	= 33"
five voussoir keystone bottom width		2'-3"	= 27"

9/53 = ..17 = 17%   top width of keystone = 17% of lintel
5/53 = .9 = 9%   bottom width of keystone = 9% of lintel
33/53 = .62 = 62%   top of five voussoir keystone = 62% of lintel
27/53 = .51 = 51%   bottom of five voussoir keystone = 51% of lintel
13/73 = .18 = 18%   keystone height vs. overall portal height = 18%

Batty Langley's <u>The Builder's Director or Benchmate</u>
<u>Tuscan order Door</u>   1/4" = 1'-0"   Diagram F

Overall width of door		7'-8"	= 92"
height (+ architrave w/o cornice)		9'-7"	= 115"
opening width of door		4'-0"	= 48"
height		8'-2"	= 98"
lintel height		1'-4"	= 16"
keystone	top width	1'-0"	= 12"
	bottom	8"	= 8"
three voussoir keystone top width		2'-1"	=25"
bottom width		1'-9"	=21"

$12/92 = .13 = 13\%$ top width of keystone = 13% of lintel
$8/92 = .09 = 9\%$ bottom width of keystone = 9% of lintel
$25/92 = .27 = 27\%$ top of three voussoir keystone = 27% of lintel
$21/92 = .23 = 23\%$ bottom of three voussoir keystone = 23% of lintel
$19/115 = .16 = 16\%$ keystone height v. overall portal height = 16%

<u>Doric Order Door</u>   1/4" = 1'-0"   Diagram F

Overall width of gate portal		8'-3"	= 99"
height (w/o cornice)		10'-9"	= 129"
opening width of gate portal		5'-1"	= 61"
height		9'-8"	= 116"
lintel height		1'-1"	= 13"
keystone	top width	1'-0"	= 12"
	bottom	9"	= 9"
three voussoir keystone top width		2'-0"	= 24"
bottom width		1'-9"	= 21"

$12/99 = .12 = 12\%$ top width of keystone = 12% of lintel
$9/99 = .\ 9 = 9\%$ bottom width of keystone = 9% of lintel
$24/99 = .24 = 24\%$ top of three voussoir keystone = 24% of lintel
$21/99 = .21 = 21\%$ bottom of three voussoir keystone = 21% of lintel
$13/129 = .10 = 10\%$ keystone/lintel height v. overall portal height = 10%

Batty Langley's <u>The Builder's Director or Benchmate</u>

<u>Ionic order Door</u>   1/4" = 1'-0"   Diagram G

Overall width of door		7'-5"	= 89"
	height (+ architrave w/o cornice)	9'-10"	= 118"
opening width of door		4'-3"	= 51"
	height	8'-11"	= 107"
lintel height		11"	= 11"
keystone	top width	10"	= 10"
	bottom	8"	= 8"
three voussoir keystone top width		1'-6"	=18"
	bottom width	1'-4"	=16"

10/89 = .11 = 11%   top width of keystone = 11% of lintel
8/89 = .9 = 9%bottom width of keystone = 9% of lintel
18/89 = .20 = 20%   top of three voussoir keystone = 20% of lintel
16/92 = .19 = 19%   bottom of three voussoir keystone = 19% of lintel
11/118 = .09 = 9%   keystone height v. overall portal height = 9%

<u>Corinthian Order Door</u>   1/4" = 1'-0"   Diagram G

Overall width of gate portal		7'-9"	= 93"
	height (w/o cornice)	10'-1"	= 121"
opening width of gate portal		3'-11"	= 47"
	height	8'-11"	= 107"
lintel height		1'-1"	= 14"
keystone	top width	6"	= 6"
	bottom	5"	= 5"
three voussoir keystone top width		1'-3"	= 15"
	bottom width	11"	= 11"

6/93 = ..6 = 6%   top width of keystone = 6% of lintel
 5/93 = . 5 = 5%   bottom width of keystone = 5% of lintel
15/93 = .16 = 16%   top of three voussoir keystone = 16% of lintel
11/93 = .12 = 12%   bottom of three voussoir keystone = 12% of lintel
14/121 = .12 = 12%   keystone/lintel height v. overall portal height = 12%

Batty Langley's The Builder's Director or Benchmate
Composite order Door   1/4" = 1'-0"   Diagram H

Overall width of door		7'-10"	= 94"
height (+ architrave w/o cornice)		9'-6"	= 114"
opening width of door		3'-10"	= 46"
height		8'-5"	= 101"
lintel height		1'-1"	= 13"
keystone	top width	8"	= 8"
	bottom	6"	= 6"
three voussoir keystone top width		1'-3"	=15"
	bottom width	11"	=11"

8/94 = .09 = 9%   top width of keystone = 9% of lintel
6/94 = .6 = 6%bottom width of keystone = 6% of lintel
15/94 = .16 = 16%   top of three voussoir keystone = 16% of lintel
11/94 = .12 = 12%   bottom of three voussoir keystone = 12% of lintel
13/114 = .11 = 11%   keystone height v. overall portal height = 11%

Conclusion

The purpose of this thesis was to examine the role of historic elements in postmodernism. Historicism was promoted as a tool for opening communication between the architectural community and the public at large. As demonstrated with Michael Graves' work, the historical element of a keystone is intended to be familiar enough to establish a link to the viewer's memory as to where he or she might have seen a similar image. Yet Graves has abstracted the keystone to take on a new meaning. This aspect of communication is a commandable feat, to appeal to the majority while maintaining an intellectual challenge that satisfies the tastes of the elite. Has postmodernism succeeded?

As discussed in the analysis of the Portland Public Service Building, what was applauded by postmodernists, laughed at by modernists, and marked by considerable attention and discussion in general, was not in practice well-received by the actual inhabitants of the building. The intellectual feast provided by Graves with this building, whether positive or negative in flavor, seemed to bypass the people with whom it was designed to communicate.

Another example of postmodernism having the right intention but perhaps going too far in the abstraction or simplification of the original form is Charles Moore's Piazza D'Italia. The Piazza never really achieved success as a public park.

> Built as a tribute to [New Orleans]'s large Italian community, the piazza opened in 1978 with fanfare, chianti and hopes that it would help revitalize the city's center. The opening days brought crowds marveling at the architecture. ... But the piazza has fallen on hard times, a victim of Louisiana's struggling economy. No investors ever opened the businesses that would enliven the piazza and pay for its upkeep. Tourists and scholars still visit, but they rarely linger. At nightfall a few homeless men spread cardboard pallets for sleeping. The fountain now runs part time.[84]

The Piazza D'Italia resembles a Hollywood stage-set that happened to end up in

New Orleans. Visited by architecture enthusiasts, but seriously underused by the community, it is now threatened by development because it is located on prime commercial land. The Piazza was 'undedicated' as a public park on March 21, 1991 in order to encourage development. A currently proposed plan includes a 405-room hotel with a driveway and car-park that would replace the central classical temple, the bell tower, and an additional arch of the Piazza.[85]

Postmodernism has now been thrust into the realm of preservation. How can the Piazza, designed by a leading architect of the late 20th century, be destroyed or significantly altered by development? Preservationists are not against the development of surrounding space, they are fighting the aspect of the development encroaching on the space, and altering the environment established by Charles Moore. Without the temple, the central focus of the stage set would be lost - to a driveway! The Piazza would be taken from the neighborhood and turned over to automobiles - that is, empty machines.

Postmodernism sought to break architecture from a love affair with technology and the machine age, and return it to the people who use the buildings and spaces. The Piazza D'Italia has not been successful in courting people into visiting the space; it has not become the intended city center and gathering spot for the Italian community. Despite all this, the proposed development would amplify the failure of the Piazza and dash any hopes of rectifying the situation, not only by fragmenting a piece of classical architecture, but by removing the people from the immediate context of the park.

Is the proposed development of the Piazza D'Italia the signal for the end of postmodernism? The demolition of the Pruitt-Igoe low-income housing complex in St. Louis in 1972 due to continuous vandalism and disproportionately high crime rates, signaled the end of modernism as an architecture to transform social housing. Is the

demolition of Piazza D'Italia a signal of postmodernism's failure to communicate with the population at large?

Where did Charles Moore and postmodernism go wrong? Moore did succeed in bringing the architectural orders into contemporary architecture. They are visible to the few who see them, and the interpretation of their form is amusing for those who take the time to look at them. They are, however, only a stage-set. They are seen as superficial and decorative. Perhaps even temporary, which would imply that the development of the space might not be all wrong. But postmodernism is supposed to communicate with all historical ages and last longer than fourteen years.

Has postmodernism followed in modernism's footsteps, by alienating the public at large? Modernism was a romance with the machine that people could not interact with. It was the "faith in the rational, scientific mastery of reality."[86] Buildings were designed to express the function and purity of form in the building, at the expense of context, environment, or natural scale of surrounding urban or landscape fabric.

Postmodernism continues the orientation toward the future established by modernism, but it includes references to the past in order to relate to the immediate context as well as the people of the present. Postmodernism is the practice of instability, taking the familiar and making it unfamiliar. The result is the same alienation found in modernism. Modernism reduced life to simple formula of lifestyle: all was possible within pure geometries and easily recognizable forms. The loss of the familiar traditional elements of architecture in favor of abstract philosophical thought alienated the masses and became an ironic reflection of high art, despite its original intent of appealing to a classless society. Postmodernism attempts to regain the interest of popular culture in architectural space, accepting reinterpretation of historical forms in order to obtain a familiar element

through which to communicate with the masses. The abstraction of historic form is a way of portraying it in contemporary technology. To cloak a building in historic forms is not enough to communicate truly with all those who encounter the building. It is a step in the right direction in that there appears to be a rising consciousness of the architectural richness of American cities. People are more aware of the evolution of the built form, but ironically they are aware that they do not like a lot of it.

Are postmodern architects so distracted by the concept of communication that they cannot actually communicate? The Portland Building and Piazza D'Italia were lauded at their construction as great monuments toward a new open architecture that all people could enjoy, but only according to the opinions of the architectural community. How can one set of people believe so strongly in a language of communication that completely fails to work for the other half of the conversation? Why is there a need to communicate anyway? It is a reflection of the times, a reflection of our society's reliance on mass media for communication of values, culture and direction for the future. Postmodernism in architecture is a tool used by society to reach beyond television, radio, and newspaper into the street, to react with people where they live and work. Modernism did not inspire the heightened awareness of the built environment, as it had intended. Postmodernism in architecture is attempting to become the mass communication of structural expression.

Perhaps architects should focus more on the common experience of time and place rather than an assumed knowledge of architectural history as the link between designers and users of the buildings. The assumption that all who view the building will be able to complete an image, as Graves did with the keystone voids, or to even recognize one, such as the arch on the façade of the Portland Building, is alienating in that an assumption of human knowledge levels is apparent. People are unpredictable in their

responses, and their perceptions of a building are formulated by their individual charac-
teristics, backgrounds, and needs as they relate to what the building offers. The only true
common denominator between architects, clients, and the people who will eventually
come into contact with the building is the immediate environment of the site. To commu-
nicate through that level, and design around its context and urban fabric, which may or
may not include historic elements in the decoration, seems to be the most positive direc-
tion in which postmodernism in architecture can go.

Historic elements alone cannot establish a link between the building and the
viewer to an extent that will establish communication with and therefore success for the
building. Postmodernism did more to architecture than merely apply decoration, but the
role of historic elements was serve as a bridge between architects and the public.
Postmodernism has increased American awareness of the historic integrity of the existing
urban fabric. An unintended by-product of the movement is that decoration based on
historic precedent is interpreted as superficial and cursory. Communication goes beyond
the superficial level of decoration, just as conversations go beyond introductions.
Postmodernism established a mutual interest in dialogue between architects and the
public at large, but it did not succeed in finding the common ground on which to stand.

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End notes

1   Robert Venturi, *Complexity and Contradiction* (1966; reprint, New York: Museum of Modern Art, 1977).

2   Robert Venturi, *Complexity and Contradiction* , 13.

3   Venturi, *Complexity and Contradiction,* 12. Quote from Vincent Scully's introduction.

4   Venturi, *Complexity and Contradiction,* 41.

5   Venturi, *Complexity and Contradiction,* 43.

6   Venturi, *Complexity and Contradiction,* 118.

7   Venturi, Scott Brown and Izenour, *Learning From Las Vegas,* (1972; reprint, Cambridge, MA: MIT Press, 1977 (1972), 7.

8   Denise Scott Brown and Steven Izenour were partners in Venturi and Rauch, Architects.

9   Venturi, Scott Brown and Izenour, *Learning From Las Vegas,* 7.

10   Historicism is a term commonly used in postmodernism, as the use of historical elements in a new context.

11   Denise Scott Brown, "Learning the Wrong Lessons from the Beaux Arts" *A View from the Campidoglio,* (New York: Harper & Row 1984) 69.

12   Venturi, *Learning From Las Vegas,* 93.

13   Venturi, *Learning From Las Vegas,* 161.

14   Charles Jencks, *Language of Post-Modern Architecture,* (1977; reprint, New York: Rizzoli International Publications, 1981).

15   Charles Jencks, *Language of Post-Modern Architecture,* 6.

16   Jencks, *Language of Post-Modern Architecture,* 6.

17   Jencks, *Language of Post-Modern Architecture,* 35.

18   Jencks, *Language of Post-Modern Architecture,* 79.

19   Jencks, *What is Post-Modernism?* (1986; reprint, New York: St Martin's Press 1989) 56.

20   John Jacobus, *Philip Johnson,* (New York: George Braziller 1962).

21   Jencks, *Language of Post-Modern Architecture,* 90.

22   Jencks, *Language of Post-Modern Architecture,* 92.

23   Jencks, *Language of Post-Modern Architecture*, 96.

24   Jencks, *Language of Post-Modern Architecture*, 104.

25   Jencks, *Language of Post-Modern Architecture*, 104.

26   Jencks, *Language of Post-Modern Architecture*, 112.

27   Jencks, *Language of Post-Modern Architecture*, 113.

28   Jencks, *Language of Post-Modern Architecture*, 113.

29   Jencks, *Language of Post-Modern Architecture*, 118.

30   Jencks, *Language of Post-Modern Architecture*, 118.

31   Jencks, *Language of Post-Modern Architecture*, 126.

32   Jencks, *Language of Post-Modern Architecture*, 146.

33   Charles Jencks, *What is Post-Modernism?* (1986; reprint, New York: St Martin's Press 1989).

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36   Heinrich Klotz, *The History of Postmodernism*, (original *Moderns und Postmoderne: architektur der   Gegernwart, Friedr. Vieweg & Sohn Verlagsgesellschaft mbH, Braunscnweig and Wiesbaden,1984*, translated by Radka Donnell, Cambridge, MA, MIT Press, 1988).

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38   Klotz, *The History of Postmodernism*, 5.

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41   Klotz, *The History of Postmodernism*, 128.

42   Klotz, *The History of Postmodernism*, 128.

43   Klotz, *The History of Postmodernism*, 130.

44   Klotz, *The History of Postmodernism*, 130.

45   Klotz, *The History of Postmodernism*, 142.

46   Klotz, *The History of Postmodernism*, 130.

47   Klotz, *The History of Postmodernism*, 130.

48   Klotz, *The History of Postmodernism*, 170.

49   Klotz, *The History of Postmodernism*, 210.

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55   William R.Biers, *The Archaeology of Greece*: *An Introduction* , (60. Ithaca: Cornell University Press, 1980), 65.

56   *Encyclopaedia Britanica*, vol. 2., 286.

57   *Encyclopaedia Britanica*, vol. 2., 286.

58   Sebastiano Serlio, *The Book of Architecture* , 4th book, fifth chapter, folio 8.

59   A possible influence for this drawing may be one known as " The Claudian Portico on the Celio"   attributed to Palladio in Lionello Puppi's *Palladio Drawings* (New York: Rizzoli Publishers, 1989) plate 14.

60   Serlio, *The Book of Architecture* , 4th book, fifth chapter, folio 13.

61   Inigo Jones, *Inigo Jones on Palladio*, (Oxford: Oriel Press, 1970) 6.

62   William Kent, *Designs of Inigo Jones*, (London: William Kent, 1744) pl 59.

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64   A.C. Papadakis , ed. "Plocek House," *Architectural Design*, 5/6 1980, 130.

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66   Vincent Scully, "Michael Graves' Allusive Architecture: The Problem of Mass," *Michael Graves 1966-1981*, (New York: Rizzoli Publishers, 1982),292.

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73   Susan Doubilet, "Conversation with Michael Graves: The Portland Building." *Progressive Architecture*, 64, 2 (Feb. 1983) 113.

74   Kristina S. Olsen, "Living With It: Michael Graves' Portland Building", *Art Criticism*, vol 5, no 1,   1988, 40.

75   Klotz, *The History of Postmodernism*, 137, quoting Charles Jencks in unpublished description of Haus-Rucker-Co.

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83   The examined interpretations of Palladio included:
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Weeks, Kay D. "New Exterior additions to Historic Buildings: Preservation Concerns." U.S. Department of the Interior. National Park Service Preservation Assistance Division Technical Prese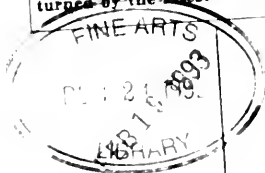rvation Services. *Preservation Briefs* 14.